PIONEER®
The Art of Entertainment

Service Manual

ORDER NO.
ARP2786

CD CDV LD PLAYER

CLD-1850

HEZ, HB, HPW

- **Refer to the service manual ARP2543 for CLD–1700/HEZ.**
- **This manual is applicable to CLD–1850/HEZ, HB and HPW.**

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS SERVICE INC. P.O. Box 1760, Long Beach, California 90801 U.S.A.
PIONEER ELECTRONICS OF CANADA, INC. 300 Allstate Parkway Markham, Ontario L3R 0P2 Canada
PIONEER ELECTRONIC [EUROPE] N.V. Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia TEL: [03] 580-9911
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1. SAFETY INFORMATION

(FOR EUROPEAN MODEL ONLY)

VARO!
AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

ADVERSEL:
USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGÅ UDSAETTELSE FOR STRÅLING.

VARNING!
OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.

LASER
Kuva 1
Lasersateilyn varoitusmerkki

WARNING!
DEVICE INCLUDES LASER DIODE WHICH EMITS INVISIBLE INFRARED RADIATION WHICH IS DANGEROUS TO EYES. THERE IS A WARNING SIGN ACCORDING TO PICTURE 1 INSIDE THE DEVICE CLOSE TO THE LASER DIODE.

IMPORTANT
THIS PIONEER APPARATUS CONTAINS LASER OF CLASS 1.
SERVICING OPERATION OF THE APPARATUS SHOULD BE DONE BY A SPECIALLY INSTRUCTED PERSON.

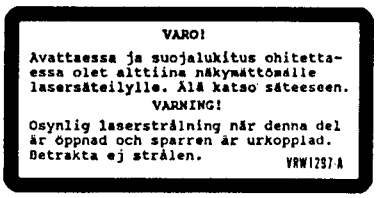
LASER DIODE CHARACTERISTICS
MAXIMUM OUTPUT POWER: 5 mw
WAVELENGTH: 780-785 nm

LASER
Picture 1
Warning sign for laser radiation

LABEL CHECK

HB model

HEZ model

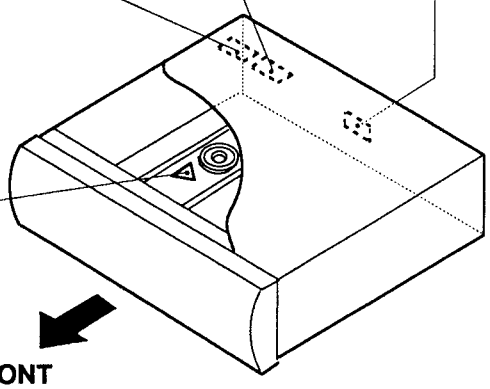

VARO!
Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.
VARNING!
Osynlig laserstrålning när denna del är öppnad och sparren är urkopplad.
Betrakta ej strålen.
VRW1297-A

HEZ and HB model

HEZ model

ADVARSEL
USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHED SAFBRYDERE ER UDE AF FUNKTION.
UNDGÅ UDSÆTTELSE FOR STRÅLING.
VORSICHT!
UNSICHTBARE LASER-STRAHLUNG TRITT AUS, WENN DECKEL (ODER KLAPPE) GEÖFFNET IST! NICHT DEM STRAHL AUSSETZEN!
VRW1094

HEZ and HB models



FRONT

Additional Laser Caution

1. The ON/OFF statuses of the slider - position detection switches (PARK INNER, PARK OUTER on the PKSB assembly), loading - status detection switches (SW 1, 2 and 3 on PKSB assembly) are detected by the microprocessor (IC101 in the MOTHER ASSY). To permit the laser diode to oscillate, it is required to set the slider - position detection switch for the LD ACTIVE status (PARK INNER: OFF, PARK OUTER: OFF), and to set the loading - status detection switch for clamped state (SW1: OFF, SW2: ON, SW3: ON). As long as these requirements are not satisfied, the laser diode will not oscillate. When the requirements are met in any way, the laser diode can oscillate. The laser diode oscillation will continue if pin 29 of IC801 is shorted to GND or the emitter and collector of Q809 are shorted each other (fault condition) in MOTHER ASSY. *
   In test mode (see page 51), the laser diode oscillates when microprocessor detects a PLAY signal or when the PLAY key is pressed (S223: ON in the FLKY assembly), with the above requirements satisfied.
2. When the cover is open, close viewing through the objective lens with the naked eye will cause exposure to a Class 1 laser beam.

* : Refer to service manual ARP2543, CLD-1700.

2. CONTRAST OF MISCELLANEOUS PARTS

NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits(any digit apart from 0), such as 560 ohm and 47k ohm(tolerance is shown by J=5%, and K=10%).

560 Ω → 56 × 10¹ → 561 ····· RD1/8PM 5 6 1 J
47k Ω → 47 × 10³ → 473 ····· RD1/4PS 4 7 3 J
0.5 Ω → 0R5 ····· RN2H 0 R 5 K
1 Ω → 010 ····· RS1P 0 1 0 K

Ex.2 When there are 3 effective digits(such as in high precision metal film resistors).

5.62k Ω → 562 × 10¹ → 5621 ····· RN1/4PC 5 6 2 1 F

CLD-1850/HEZ, HB, HPW and CLD-1700/HEZ have the same construction except for the following :

Mark	Symbol & Description	Part No.				Remarks
		CLD-1700 /HEZ	CLD-1850 /HEZ	CLD-1850 /HB	CLD-1850 /HPW	
◉	FLKB assembly	VWM1278	• • • • •	• • • • •	• • • • •	
NSP	FLKB assembly	• • • • •	VWM1367	VWM1367	VWM1367	
NSP	FLKY assembly	VWG1336	• • • • •	• • • • •	• • • • •	
	FLKY assembly	• • • • •	VWG1410	VWG1410	VWG1410	
NSP	PSWB assembly	VWG1315	VWG1449	VWG1449	VWG1449	
NSP	HEPB assembly	VWV1254	VWV1320	VWV1320	VWV1320	
◉	MOTHER assembly	VWM1276	• • • • •	• • • • •	• • • • •	
	MOTHER assembly	• • • • •	VWX1167	VWX1167	VWX1167	No. 1
NSP	AUDIO assembly	VWX1124	• • • • •	• • • • •	• • • • •	
NSP	MAIN assembly	VWX1123	• • • • •	• • • • •	• • • • •	
◉	SYPS assembly	VWR1146	VWR1146	VWR1147	VWR1178	
◉	SCRB assembly	VWV1248	• • • • •	• • • • •	• • • • •	
	DSCB assembly	• • • • •	VWV1296	VWV1296	VWV1296	No. 2
	Rack assembly	VWT1080	VWT1099	VWT1099	VWT1099	
NSP	Pickup assembly	VWY1030	VWY1036	VWY1036	VWY1036	
⚠	Strain relief	• • • • •	CM-22B	CM-22B	CM-22B	
⚠	AC power cord	VDG1028	PDG1003	VDG1051	RDG1022	
⚠	Fuse (FU1 : T13A)	• • • • •	• • • • •	VEK1003	• • • • •	No. 3
	Fuse holder	• • • • •	• • • • •	VKR1002	• • • • •	No. 4
NSP	PC support	VEC1584	VEC1415	VEC1415	VEC1415	No. 5
	Packing case	VHG1260	VHG1271	VHG1272	VHG1272	
NSP	Rear panel	VNA1278	• • • • •	• • • • •	• • • • •	
	Rear panel (FE)	• • • • •	VNA1330	VNA1331	VNA1331	
	CD door assembly-S	VXX1728	VXX1848	VXX1848	VXX1848	
NSP	CD door	VNK2033	VNK2244	VNK2244	VNK2244	
	Center panel assembly-S	VXX1757	VXX1859	VXX1859	VXX1952	
NSP	Center panel	VNK2085	VNK2265	VNK2265	VNK2265	
	Front panel assembly	VXA1867	VXA1962	VXA1962	VXA1962	
	FL filter	VNK1694	VNK1694	VNK1694	VNK1695	
	Operating instructions (English/French/German/Italian)	VRE1010	VRE1015	• • • • •	• • • • •	
	Operating instructions (Dutch/Swedish/Spanish/Portuguese)	VRF1017	VRF1022	• • • • •	• • • • •	
	Operating instructions (English)	• • • • •	• • • • •	VRB1085	VRB1085	
	Remote control unit (CU-CLD077)	VXX1758	• • • • •	• • • • •	• • • • •	
	Remote control unit (CU-CLD082)	• • • • •	VXX1832	VXX1832	VXX1832	
NSP	Warranty card	ARW-088	ARW-088	ARW-088	ARY1067	
	Battery cover	VNK1293	DNK2286	DNK2286	DNK2286	
	Pin cap	• • • • •	• • • • •	VEC1616	• • • • •	No. 6
	Pad (R)	VHA1106	VHA1106	VHA1123	VHA1123	
NSP	Caution label	• • • • •	• • • • •	PRW1018	PRW1018	
NSP	Caution label	VRW1094	VRW1094	• • • • •	• • • • •	
NSP	Caution label HE	VRW1297	VRW1297	• • • • •	• • • • •	

Note : The numbers in the remarks column correspond to the numbers on the exploded diagram. Refer to "EXPLODED VIEWS".

FLKY ASSEMBLY

VWG1410 and VWG1336 have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		VWG1336	VWG1410	
	IC201	PD3214B	PD3246A	
	D211, D212	• • • • •	MTZ5.6B	

SYPS ASSEMBLY

VWR1147, VWR1178 and VWR1146 have the same construction except for the following :

Mark	Symbol & Description	Part No.			Remarks
		VWR1146	VWR1147	VWR1178	
⚠	L2 Line filter	• • • • •	• • • • •	VTL-004	

PSWB ASSEMBLY

Although VWG1449 and VWG1315 are different in part number, they have the same service parts.

HEPB ASSEMBLY

Although VWV1320 and VWV1254 are different in part number, they have the same service parts.

• PCB PARTS LIST

Mark	No.	Description	Part No.
DSCB ASSEMBLY			
SEMICONDUCTORS			
	IC104, IC105		BA15218
	IC103, IC106		BA15218N
	IC101		CXD2500BQ
	IC107		LA7955
	IC110		NJM78L05A
	IC108		NJM78M08FA
	IC109		NJM79L08A
	IC102		PD2026B
	Q224		2SA933S
	Q111, Q112		2SC1740S
	Q208, Q209, Q220, Q222, Q223		2SC2412K
	Q204, Q205		2SD2144S
	Q203, Q207, Q210, Q212-Q216, Q221		DTA124EK
	Q113, Q206, Q225		DTC124EK
	D202, D207		DAN202K
	D210, D211		ERA83-006
	D201		FC54M
COILS AND FILTER			
	L201, L202, L204-L206, L301-L303		LAU010K
	L203		LAU220J
	F201		TH1016

Mark	No.	Description	Part No.
CAPACITORS			
	C137, C141, C145, C149		CCSQCH101J50
	C232		CCSQCH150J50
	C139, C143, C147, C151		CCSQCH221J50
	C220, C221		CCSQCH271J50
	C258-C263		CCSQCH390J50
	C274, C275, C301		CEANP220M10
	C222, C223		CEANP2R2M50
	C215		CEANPR47M50
	C133, C134, C138, C140, C142, C144, C146, C148, C150, C152, C160, C228, C284, C285		CEAS100M50
	C207, C279		CEAS101M10
	C155, C203, C208, C211, C225, C226, C230, C252, C253, C270-C273, C283		CEAS470M10
	C153, C154		CEAS471M10
	C255, C257		CEAS471M6R3
	C131, C159		CEJA100M16
	C327		CKSQYB102K50
	C287		CKSQYB682K50
	C132, C157, C206, C213, C216, C217, C231, C234, C251, C286, C320, C323, C324		CKSQYF103Z50
	C204, C209, C212, C254, C288, C310, C311, C322, C325, C326		CKSQYF104Z25
	C201, C224		CKSQYF473Z25
	C268, C269		CQMA102J50
	C202, C264, C265		CQMA152J50
	C266, C267		CQMA682J50

Mark	No.	Description	Part No.
RESISTORS			
⚠	R169, R170		DCN1003
	R212, R213, R220, R221		RD1/6PM470J
	R160, R164		RD1/6PM471J
	R140, R141, R159, R163		RD1/6PM750J
	OTHER RESISTORS		RS1/10S□□□J
OTHERS			
	CN105	5P TOP POST	B5P-SHF
	3P CABLE HOLDER		51048-0300
	J1	3P JUMPER WIRE	D20PDY0360G
	JA101	RGB CONNECTOR	VKB1056
	JA102	2P PIN JACK	VKB1060
	TERMINAL		VNE1841
	EARTH PLATE(FE)		VNF1081
	X201	CRYSTAL RESONATOR(16MHz)	VSS1057

MOTHER ASSEMBLY

SEMICONDUCTORS

IC805		BA10393F
IC203, IC602, IC804		BA15218N
IC205		BU4053B
IC351		CA0002AM
IC801		CXA1081S
IC802		CXA1372S
IC403		CXL1009P
IC807		LA6510L
IC405		M50552-132SP
IC803		NJM072L
IC404		PA0017-P
IC401		PA5013A
IC101		PD0173A
IC201		PD3239A
IC402		PM0001
IC601		PM3002
IC204		TA7320P
IC806		TA8464K
IC202		TC7SU04F
Q204, Q254, Q263, Q406, Q407, Q411, Q456, Q496, Q502, Q503, Q511, Q540, Q611, Q613, Q614, Q703, Q704, Q802, Q812, Q831, Q905, Q909, Q917		2SA1037K
Q809		2SA1399
Q532		2SA933S
Q401		2SB1237X
Q261, Q351, Q431, Q524		2SC1740S
Q202, Q203, Q205, Q252, Q253, Q255, Q256-Q260, Q262, Q352, Q404, Q408, Q497-Q501, Q548, Q549, Q601-Q605, Q700-Q702, Q801, Q803-Q805, Q807, Q811, Q813, Q915, Q918		2SC2412K
Q402		2SD1858X
Q908		2SK184
Q201, Q251, Q403, Q405, Q504, Q512, Q606, Q808, Q810, Q814, Q903, Q913		DTA124EK
Q101, Q505, Q522, Q530, Q531, Q612, Q615, Q624, Q901, Q902, Q911, Q912, Q914		DTC124EK

Mark	No.	Description	Part No.
	D805		1SR35-100AVL
	D101-D103, D401, D502, D801-D803, D806, D807		1SS254
	D601, D810, D811		DA204K
	D201		DAN202K
	D403		DAP202K
	D203		SVC201SPA

COILS AND FILTERS

L801		LAU100J
L203, L204, L251, L252, L255, L412, L413, L442, L443, L521		LAU120J
L414, L415, L430		LAU150J
L497, L802, L804		LAU151J
L346		LAU180J
L345, L348, L803		LAU181J
L201, L202		LAU1R2J
L347, L351, L496, L530, L601		LAU220J
L600		LAU270J
L525		LAU330J
L523		LAU390J
L432		LAU430J
L433		LAU470J
L805		LAU4R7J
L522		LAU560J
L411, L431		LAU680J
L458		LFA221J
L457, L524		LFA561J
F204	3.2MHz L.P.FILTER	VTF1011
F203	4.43MHz B.P.FILTER	VTF1034
F202	COMB FILTER	VTF1042
F201	8MHz B.P.FILTER	VTF1051

CAPACITORS

VC201 (10p)		PCM1001
VC202 (20p)		VCM-008
VC203 (30p)		VCM1005
C203, C431, C438, C441, C816, C844		CCSQCH050C50
C207, C500, C532, C774		CCSQCH100D50
C124, C125, C212, C231, C256, C265, C419, C461, C496, C632, C809, C811,		CCSQCH101J50
C430		CCSQCH120J50
C345, C456		CCSQCH121J50
C352, C439, C440		CCSQCH150J50
C264, C348, C509, C550, C570, C771, C772		CCSQCH151J50
C409, C415, C417, C423, C424, C485, C529, C612, C633		CCSQCH180J50
C437		CCSQCH220J50
C266, C374, C660		CCSQCH221J50
C204, C208, C341, C416, C495, C510, C520, C775, C779, C810, C843		CCSQCH270J50
C402, C463, C507, C508, C918, C930, C957		CCSQCH271J50
C104, C105, C205, C462, C560		CCSQCH330J50
C211, C343, C433, C524, C528, C559		CCSQCH390J50
C252, C406		CCSQCH391J50
C455, C845, C846		CCSQCH470J50
C841, C999		CCSQCH471J50
C847		CCSQCH510J50
C342, C549, C778		CCSQCH560J50

Mark	No.	Description	Part No.
	C206, C344, C346, C808, C812		CCSQCH680J50
	C293, C347, C349, C411, C412, C498, C609, C806		CCSQCH820J50
	C536		CCSQCH910J50
	C530, C848		CEANP100M16
	C284, C551, C613, C620, C623		CEANP220M10
	C277, C278, C283		CEANP470M10
	C537, C945		CEAS010M50
	C354, C522		CEAS100M50
	C364, C434, C445, C452, C457, C489, C490, C643, C647, C842		CEAS101M10
	C472, C473, C477		CEAS3R3M50
	C101, C150, C201, C209, C213, C220, C221, C222, C227, C254, C258, C260, C262, C268, C270, C280-C282, C286, C288, C290, C363, C369, C428, C474, C484, C499, C501, C502, C512, C521, C525, C533, C552, C558, C622, C624, C801, C802, C901, C902		CEAS470M16
	C443		CEAS4R7M50
	C368		CEASR47M50
	C367, C831, C941, C942		CEHAQ100M50
	C273, C275		CEJA470M6R3
	C401, C405, C619		CEJANP2R2M35
	C625, C628, C926, C932		CEJANP4R7M16
	C223		CEJANPR47M50
	C368, C849		CEJAR47M50
	C446		CFTXA103J50
	C365, C366, C514		CFTXA104J50
	C224		CFTXA223J50
	C359, C360, C471, C603		CFTXA224J50
	C614, C626		CFTXA332J50
	C361, C362		CFTXA393J50
	C610, C617		CFTXA563J50
	C515, C517		CFTXA683J50
	C832, C940, C944		CKSQYB102K50
	C913, C925, C929, C936		CKSQYB333K25
	C920, C923		CKSQYB562K50
	C103, C106, C108, C109, C120, C121, C122, C130-C133, C202, C210, C214, C215-C217, C225, C226, C230, C232, C233, C251, C253, C255, C257, C259, C261, C263, C269, C271, C274, C276, C285, C289, C291, C350, C351, C414, C418, C421, C422, C425, C426, C458, C459, C460, C475, C476, C486, C535, C553, C554, C557, C561, C562, C565, C566, C602, C604, C615, C616, C621, C644, C651, C776, C777, C780, C781, C783, C803-C805, C807, C814, C817, C818, C850, C855-C857, C904, C914, C915, C917, C928, C931, C933, C934, C937-C939, C946, C950		CKSQYF103Z50
	C107, C151, C371-C373, C403, C404, C427, C429, C435, C442, C479, C480, C481, C503-C506, C511, C513, C526, C531, C821, C911, C912, C916, C919, C922, C924, C927, C947, C952, C959		CKSQYF104Z25
	C102, C407, C408, C466, C467, C483, C487, C488, C527, C601, C629, C813, C815, C943, C948, C949, C951, C956		CKSQYF473Z25
	C858		CKSYF105Z16
	C219, C605-C607		CQMA102J50
	C618		CQMA103J50
	C608		CQMA152J50
	C627		CQMA222J50
	C444, C611		CQMA272J50
	C218, C355-C358		CQMA472J50
	C958		VCH1115

RESISTORS

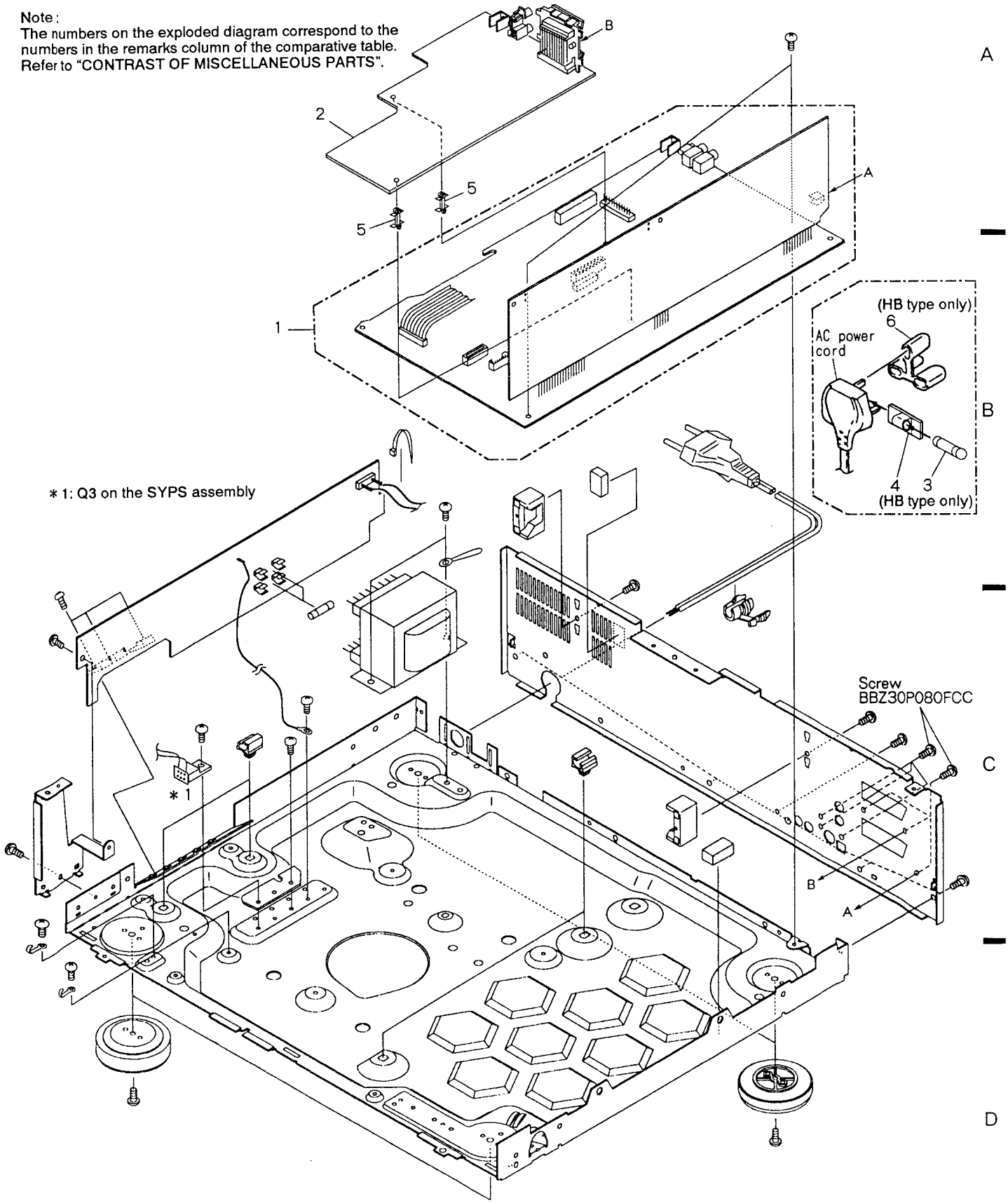
	VR608	VRTB6VS153
	VR201, VR601	VRTB6VS222
	VR441	VRTB6VS223
	VR605, VR606	VRTB6VS333
	VR202	VRTB6VS471
	VR204, VR481, VR482, VR521	VRTB6VS472
	VR603, VR604, VR607	VRTB6VS473
	R994	DCN1001
	R496	RD1/6PM101J
	R564	RD1/6PM102J
	R667	RD1/6PM103J
	R287, R605, R817	RD1/6PM221J
	R406	RD1/6PM224J
	R619, R631, R854	RD1/6PM225J
	R286	RD1/6PM2R2J
	R255, R261, R289, R845, R846	RD1/6PM470J
	R591	RD1/6PM471J
	R431	RD1/6PM510J
	R290, R358	RD1/6PM680J
	R438	RN1/6PQ1503F
	R511	RN1/6PQ2002F
	R415, R416	RN1/6PQ3002F
	R434	RN1/6PQ5101F
	OTHER RESISTORS	RS1/10S□□□J

OTHERS

	CN120 11P TOP POST	B11P-SHF-1AA
	CN103 FFC CONNECTOR(23P)	HLEM23S
	CN105 6P JUMPER CONNECTOR	SBRK06S
	7P CABLE HOLDER	51048-0700
	9P CABLE HOLDER	51048-0900
	CN106 KR CONNECTOR	B7B-PH-K
	J5 7P JUMPER WIRE	D20PDY0720G
	J4 9P JUMPER WIRE	D20PDY0910G
	J3 13P JUMPER WIRE	D20PDY1325G
	JA3, JA4 JACK/12V	PKN1004
	JA2 MINI JACK	PKN1005
	JA5 OPTICAL OUTPUT JACK	TOTX178
	PCB BINDER	VEF1040
	JA1 1P PIN JACK	VKB1063
	TERMINAL	VNE1841
	EARTH METAL	VNF-091
	X202 CRYSTAL RESONATOR(14.318MHz)	VSS1029
	X101 CERAMIC RESONATOR(9MHz)	VSS1040
	X203 CRYSTAL RESONATOR(17.734MHz)	VSS1059
	X201 CRYSTAL RESONATOR(14.22MHz)	VSS1060
	SCREW	BBZ30P060FCC

• EXPLODED VIEWS (BASE SECTION)

Note :
The numbers on the exploded diagram correspond to the numbers in the remarks column of the comparative table.
Refer to "CONTRAST OF MISCELLANEOUS PARTS".



● SCHEMATIC DIAGRAMS AND PCB PATTERNS

NOTE FOR SCHEMATIC DIAGRAMS

(Type 4A)

1. When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".

2. Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.

3. RESISTORS:
Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
Tolerance:(F):±1%, (G):±2%, (K):±10%, (M):±20% or ±5% unless otherwise noted.

4. CAPACITORS:
Unit : p:pF or μF unless otherwise noted.
Ratings : capacitor (μF) / voltage (V) unless otherwise noted.
Rated voltage : 50V except for electrolytic capacitors.

5. COILS:
Unit : m:mH or μH unless otherwise noted.

6. VOLTAGE AND CURRENT:
▭ or ←V :
DC voltage (V) in PLAY mode unless otherwise noted.
⇦mA or ←mA :
DC current in PLAY mode unless otherwise noted.
Value in ( ) is DC current in STOP mode.

7. OTHERS:
- ⊘ or ⊘ : Adjusting point.
- ◀ : Measurement point.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.

8. SCH – □ ON THE SCHEMATIC DIAGRAM:
- SCH–□ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)

9. SWITCHES (Underline indicates switch position):

PKSB ASSEMBLY
S224 :POWER (STANDBY/ON)

PKSB ASSEMBLY
S4 :PARK OUT
S5 :PARK IN

LOSB ASSEMBLY
S1 :TILT LOADING 1
S2 :TILT LOADING 2
S3 :TILT LOADING 3

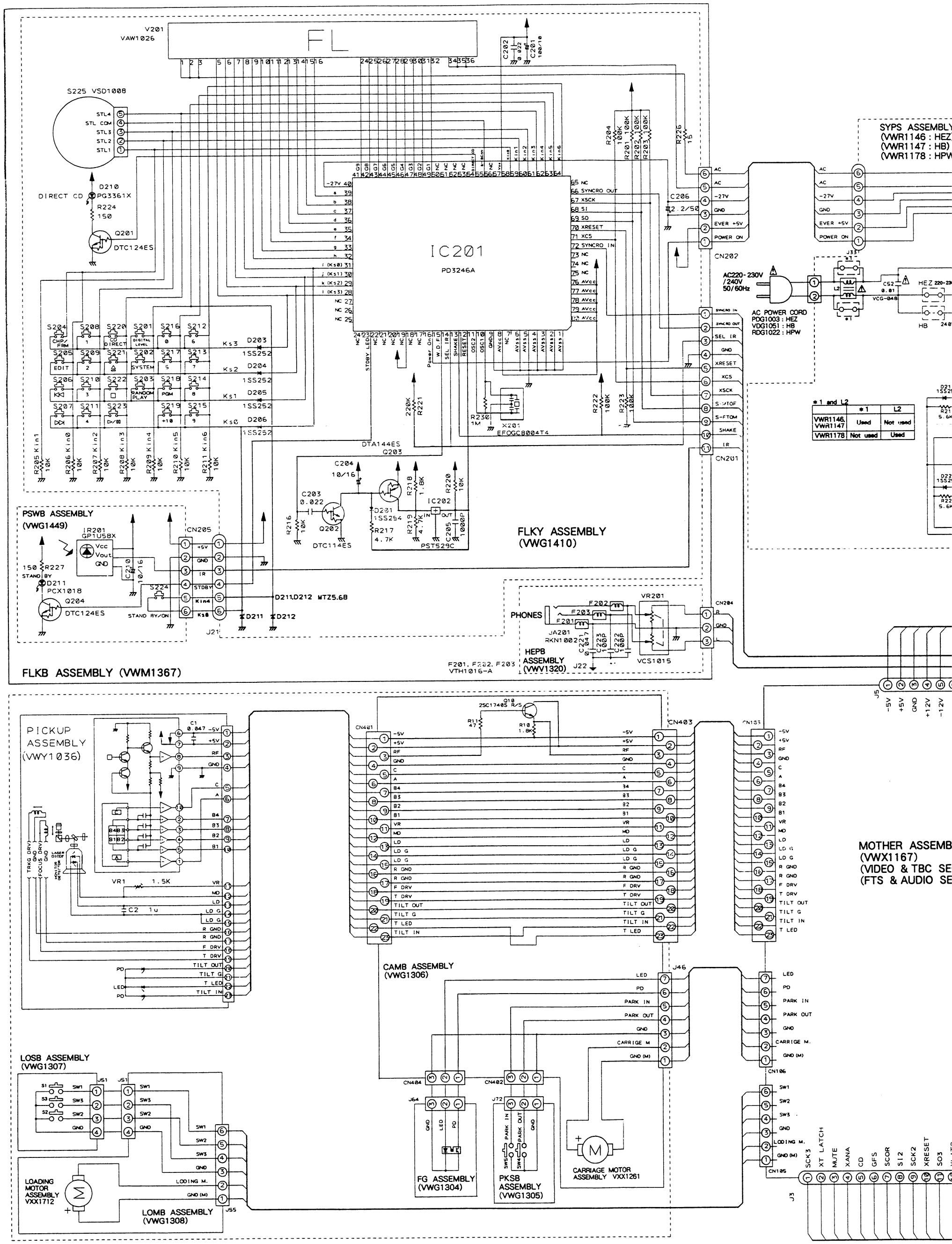
FLKY ASSEMBLY
S201 :LANGUAGE
S202 :SYSTEM
S203 :RANDOM PLAY
S204 :CHP/TIME
S205 :PGM EDIT
S206 :SKIP(⏮)
S207 :SKIP(⏭)
S208 :1
S209 :2
S210 :3
S211 :4
S212 :6
S213 :7
S214 :8
S215 :9
S216 :0
S217 :5
S218 :PGM
S219 :+10
S220 :DIRECT CD (CD)
S221 :OPEN/CLOSE (⏏)
S222 :STOP (■)
S223 :PLAY/PAUSE (▶/II)
S225 :SCAN REV FWD

NOTE FOR PCB CONNECTION DIAGRAMS

P.C.B. pattern diagram indication	Corresponding part symbol	Part name
		Transistor
		FET
		Diode
		Zenner diode
		LED
		Varactor
		Tact switch
		Inductor
		Coil
		Transformer
		Filter
		Ceramic capacitor
		Mylar capacitor
		Styrol capacitor
		Electrolytic capacitor (Non polarized)
		Electrolytic capacitor (Noiseless)
		Electrolytic capacitor (Polarized)
		Electrolytic capacitor (Polarized)
		Power capacitor
		Semi-fixed resistor
		Resistor array
		Resistor
		Resonator
		Thermistor

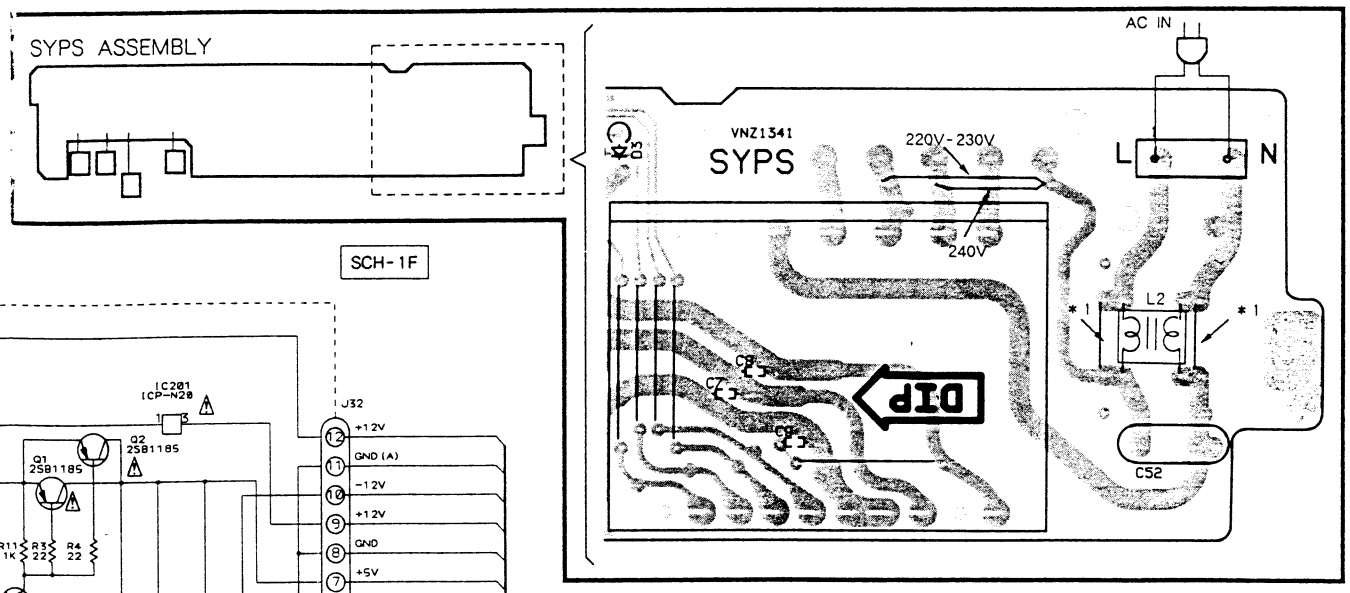
1. This P.C.B. connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the above Table.
3. The capacitor terminal marked with ▭ shows negative terminal.
4. The diode marked with ○ shows cathode side.
5. The transistor terminal marked with ▭ shows emitter.

1. FLKY, PSWB, HEPB, SYPS, CAMB, LOSB, LOMB, FG, PKSB, PICKUP ASSEMBLIES AND OVERALL WIRING DIAGRAM



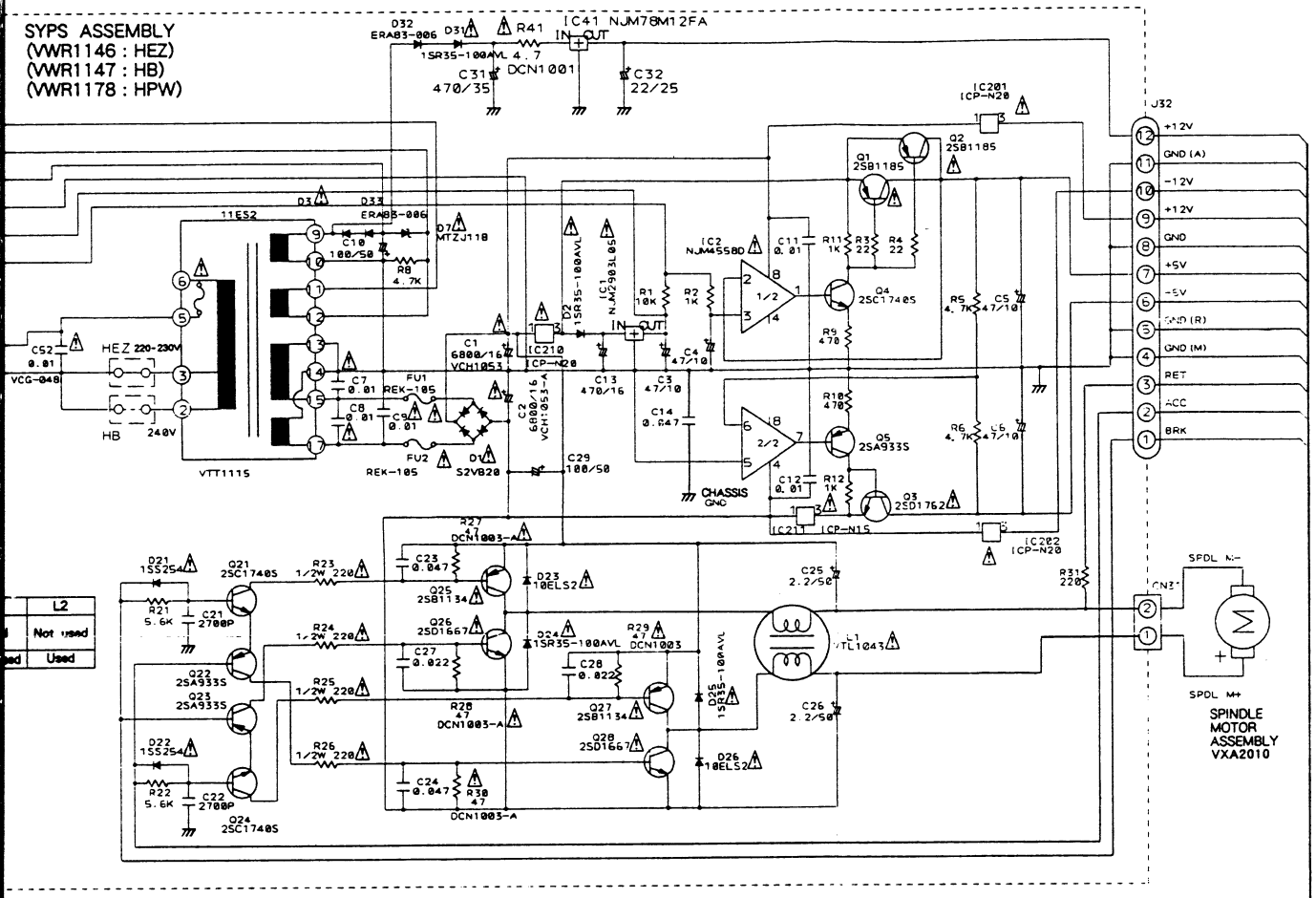
SCH-1F OVERALL WIRING DIAGRAM, FLKY ASSY, PSWB ASSY, HEPB ASSY, SYPS ASSY, CAMB ASSY, LOSB ASSY, LOMB ASSY, FG ASSY, PKSB ASSY, PICKUP ASSY

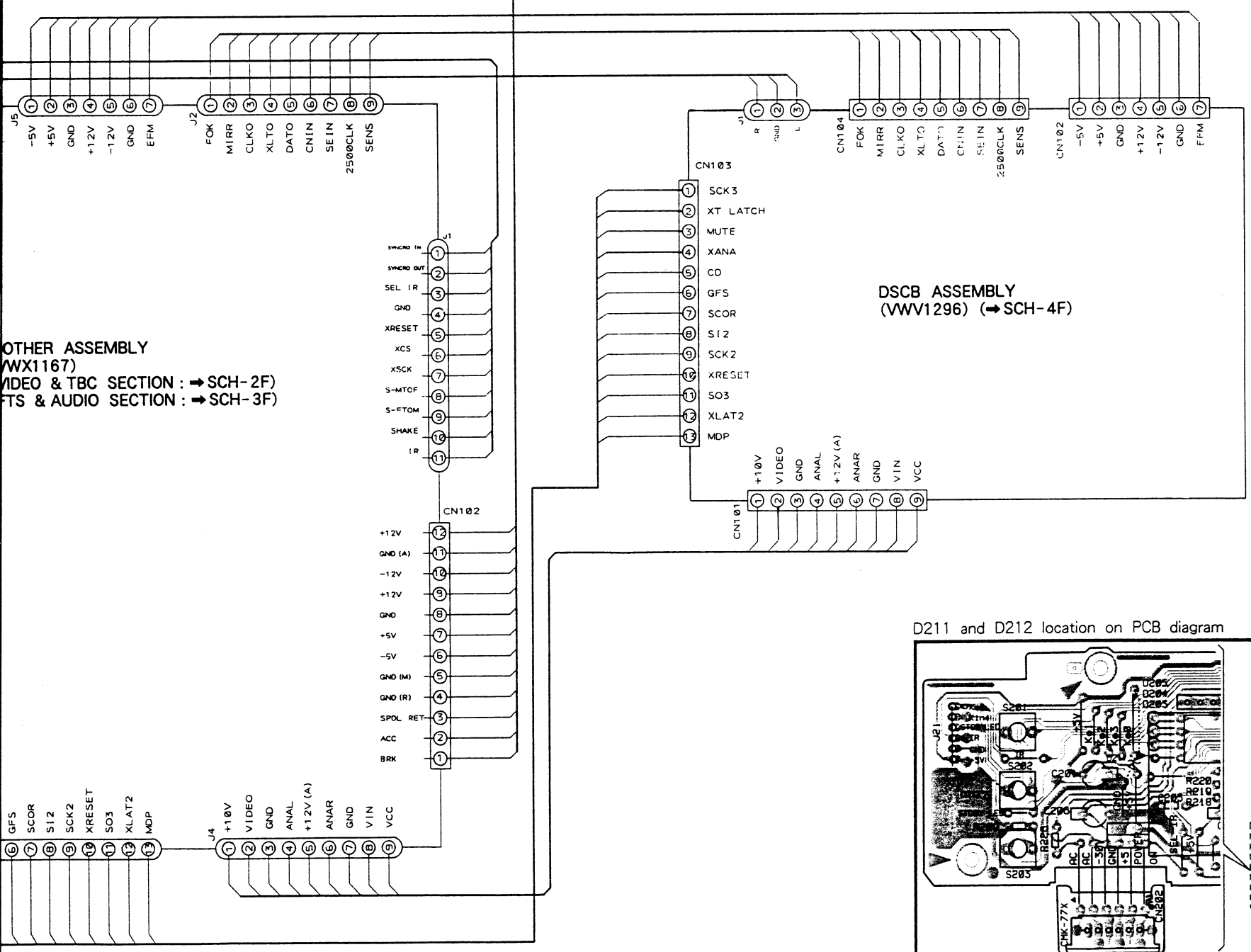
* 1 and L2 location on PCB diagram



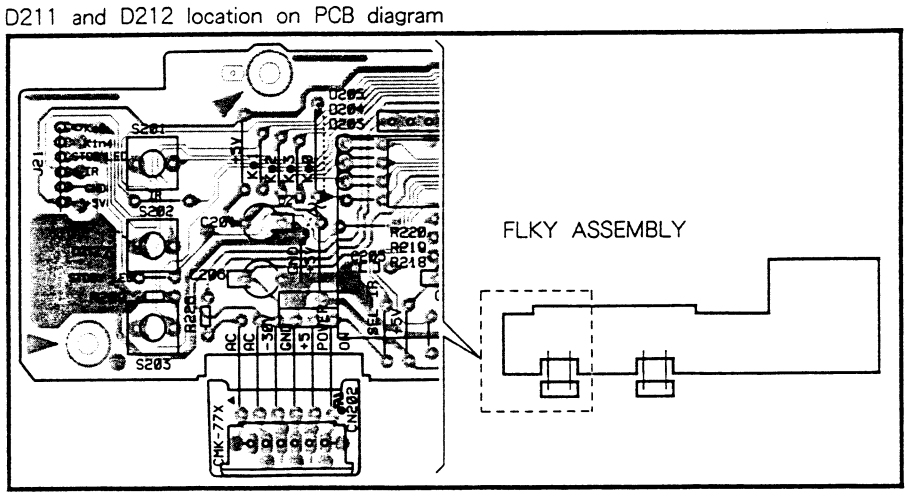
SCH-1F

SYPS ASSEMBLY
(VWR1146 : HEZ)
(VWR1147 : HB)
(VWR1178 : HPW)





D211 and D212 location on PCB diagram



OVERALL WIRING DIAGRAM,
FLKY ASSY, PSWB ASSY, HEPB ASSY,
SYPS ASSY, CAMB ASSY, LOSB ASSY,
LOMB ASSY, FG ASSY, PKSB ASSY,
PICKUP ASSY

SCH-1F

2. MOTHER ASSEMBLY (1/2)

MOTHER ASSEMBLY (1 / 2) (VWX1167)

• VIDEO SECTION

Q702,Q703 :
DE-EMPHASIS SW

Q700 :
VIDEO BUFFER

Q701 :
CCD PRE-FILTER BUFFER

Q408 :
RF FILTER SW

Q406,Q407 :
DOS FREQUENCY SW

Q405 :
INVERTER BUFFER

Q704 :
BURST FILTER SW

Q505 :
GRAY-BACK SW when CLEAR-SCA

IC405 :
CHARACTER GENERATOR

Q522 :
MUTE SW

Q503 :
PHILIPS CODE SUPPRESSOR

Q504 :
MOD PAL SW

Q524 :
BUFFER

Q540 :
PHASE EQUALIZER

Q548,Q549 :
VSQ SW

IC202 :
BURST AMP

IC203 (1/2) :
VCXO EQ AMP

Q201 :
BUFFER

IC203 (2/2) :
VPS ERROR AMP

Q202 :
MUTE SW

Q203 :
BUFFER

Q262
MUT

Waveform

IC201 (PD3

• TBC S

CCD ERR

VPS ERR

Q204,254
Q411,456
Q511,540
Q532
Q401

Q261,43
Q202,203
Q255 – 2
Q497 – 5
Q601 – 6

Q402
Q201,25
Q512,60
Q505,52
Q624

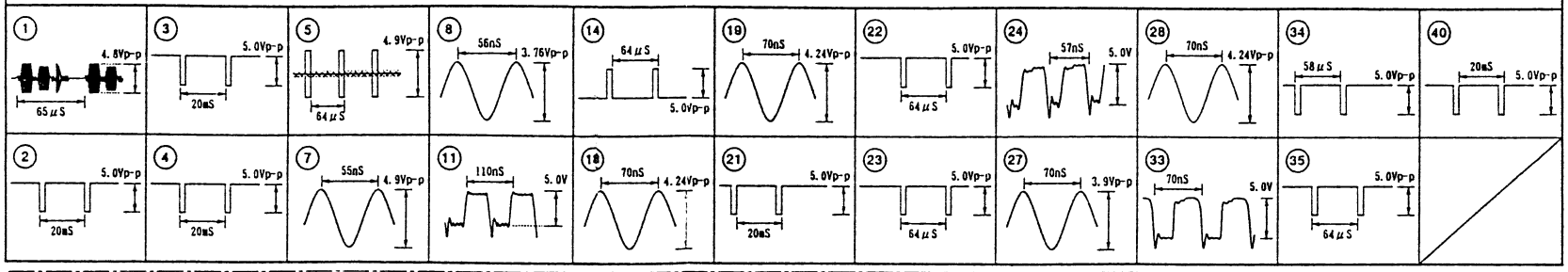
REFSC

XPBHD
XPBSYNC

Waveforms

Note : (No.) in the table correspond to the pin No. Values indicate the waveforms in the play mode.

IC201 (PD3239A)



→ : Video Signal Route
(Y) → : Y-Signal Route
→ : C-Signal Route
→ : Spindle Servo Loop Line

SCH-2F

• TBC SECTION

CCD ERR

VPS ERR

Q204,254,263,406,407, Q411,456,496,502,503, Q511,540,703,704	2SA1037K
Q532	2SA933S
Q401	2SB1237X
Q261,431,524	2SC1740S
Q202,203,205,252,253, Q255 – 260,262,404,408, Q497 – 501,548,549, Q601 – 605,700 – 702	2SC2412K
Q402	2SD1858X
Q201,251,403,405,504, Q512,606	DTA124EK
Q505,522,530,531,612, Q624	DTC124EK

REFSC

LOGIC BLOCK
SYNC SIGNAL GEN
REF H GEN
REF SC GEN
PBH TIMING GEN
LOCK DETECTOR

PFC

IC601 PM3002

SPINDLE DRIVE LOGIC

SERIAL – PARALEL DECORDER

Q624 : INVERTER BUFFER

SHIFT

VREF (AUDIO) (⇒SCH-3F)

CCD ERR (AUDIO)
CD (AUDIO)

VREF (AUDIO)

SAMP3 (AUDIO) (⇒SCH-3F)

BRAKE (CONT)
ACCELL (CONT)

S+10V (AUDIO)
+12V (A) (CONT)

16:9 (CONT)

Q532 : STATUS SIGNAL DRIVER

Q530,Q531 : STATUS SIGNAL SW

XPBHD
XPBSYNC

TGH XSLOCK XPBHD XLATCH3 SO3 SCK3 J.TRIG SCANCONT XRESET GPWM CONT (⇒SCH-3F)

Q254 : BURST GAIN CONTROL SW for TRICK PLAY

Q255 : BUFFER

Q256 : C-SIGNAL BUFFER

Q259,Q260 : Y/C MIXING AMP

Q263 : BUFFER

Q261 : 75Ω DRIVER

VIDEO OUT

S VIDEO (AUDIO) (⇒SCH-3F)

Q258 : Y-SIGNAL BUFFER

+5V (CONT) (⇒SCH-3F)
-5V

REF C-SYNC
VERT
SYEX
PTX OUT
PTX IN
VCC
GND

Q204 : PHASE EQUALIZER

Q205 : BUFFER

Q251 : BUFFER

IC204 : C-SIGNAL FREQUENCY CONVERTER

Q252,Q253 : MULTIPLEXER CONTROL SW

Q257 : BUFFER

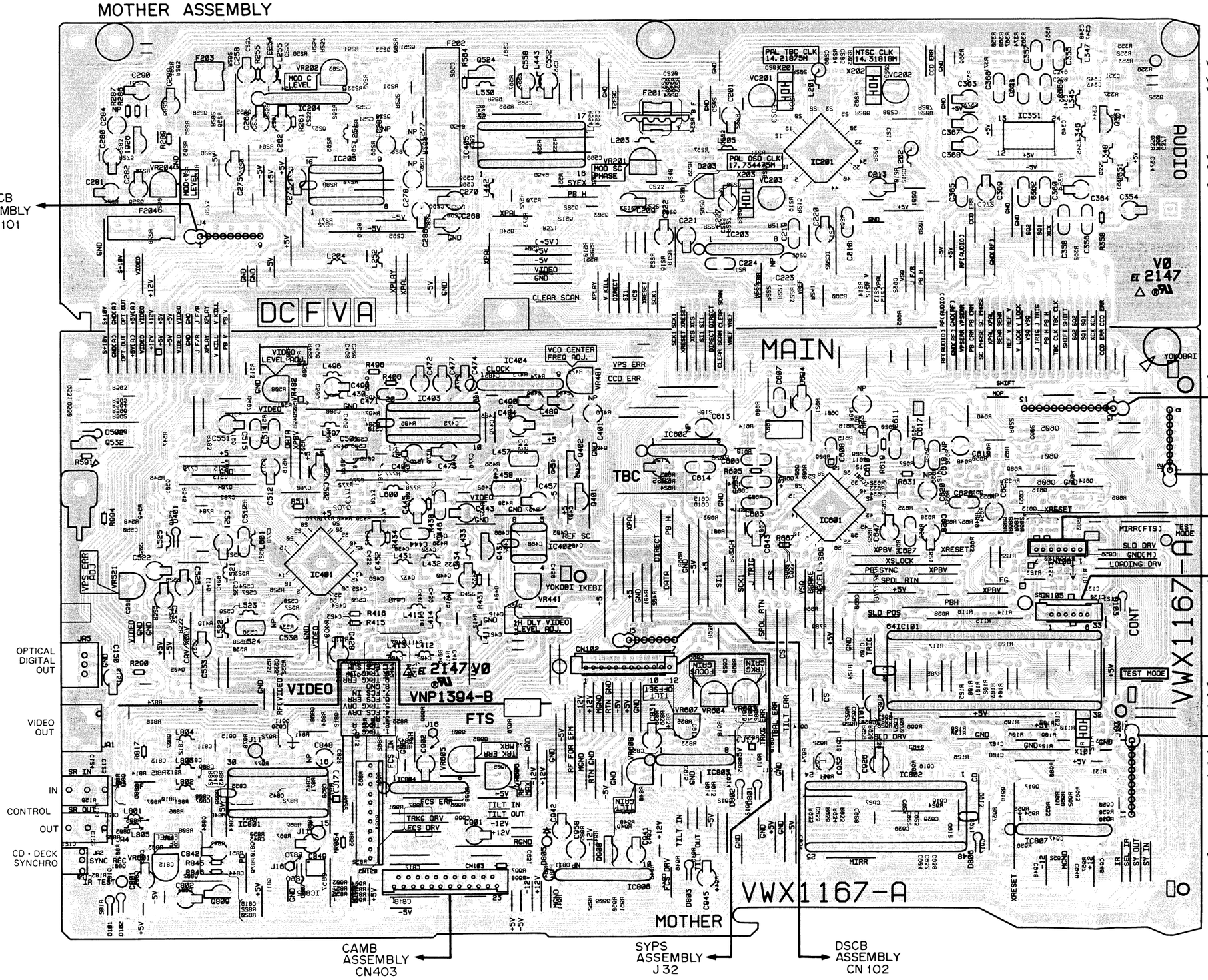
IC205 : VIDEO SW

Q262 : MUTE SW

MOTHER ASSY (1/2)
(VIDEO & TBC)

SCH-2F

MOTHER ASSEMBLY



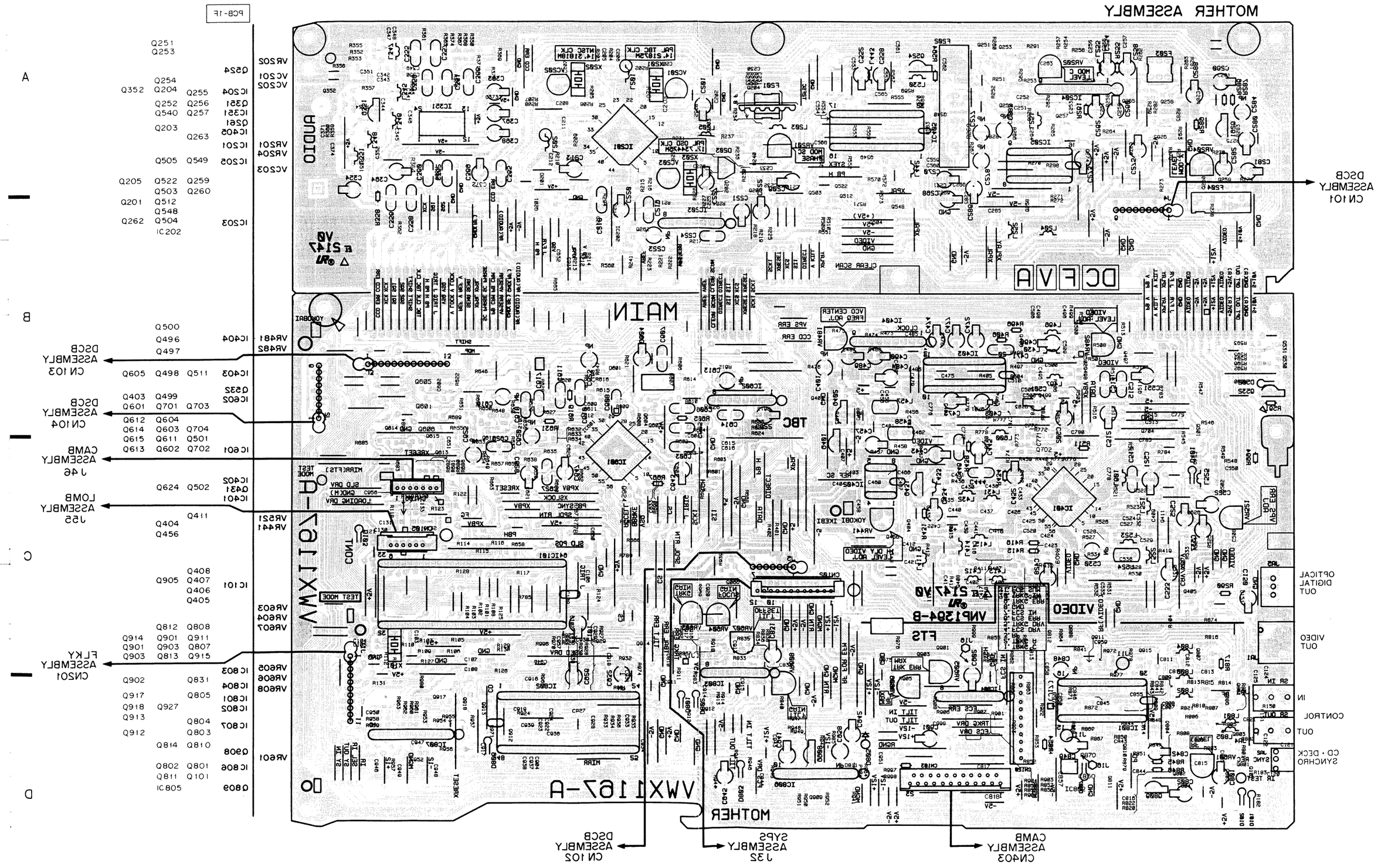
PCB-1F

VR202				
VC201 VC202	Q524			
	IC204	Q256	Q254	Q252
	Q351	Q256	Q252	
	IC351	Q257	Q240	
	Q261		Q203	
	IC405	Q263		
VR201 VR204	IC201			
VC203	IC205	Q249	Q205	
		Q259	Q255	Q250
		Q260	Q203	
			Q215	Q201
			Q248	
	IC203		Q204	Q265
			IC205	
VR481 VR482	IC404		Q206	
			Q247	
	IC403	Q211	Q248	Q605
	Q532		Q249	Q603
	IC602	Q703	Q701	Q601
			Q614	Q613
	IC601	Q705	Q605	Q613
	IC402	Q205	Q254	
	Q431			
	IC401			
VR521 VR441		Q411		
			Q604	
			Q456	
			Q608	
	IC101	Q605	Q607	
			Q606	
			Q605	
VR603 VR604 VR607		Q808	Q812	
			Q811	Q614
		Q601	Q603	Q607
		Q813	Q815	Q603
VR605 VR606 VR608	IC803	Q831		Q605
	IC804			
	IC801	Q805		Q717
	IC802		Q827	Q818
				Q713
	IC807	Q804		
		Q803		Q715
VR601	Q908	Q810	Q814	
	IC806	Q801	Q805	
		Q811	Q101	
	Q809		IC805	

DSCB ASSEMBLY CN 103
DSCB ASSEMBLY CN104
CAMB ASSEMBLY J 46
LOMB ASSEMBLY J55
FLKY ASSEMBLY CN201

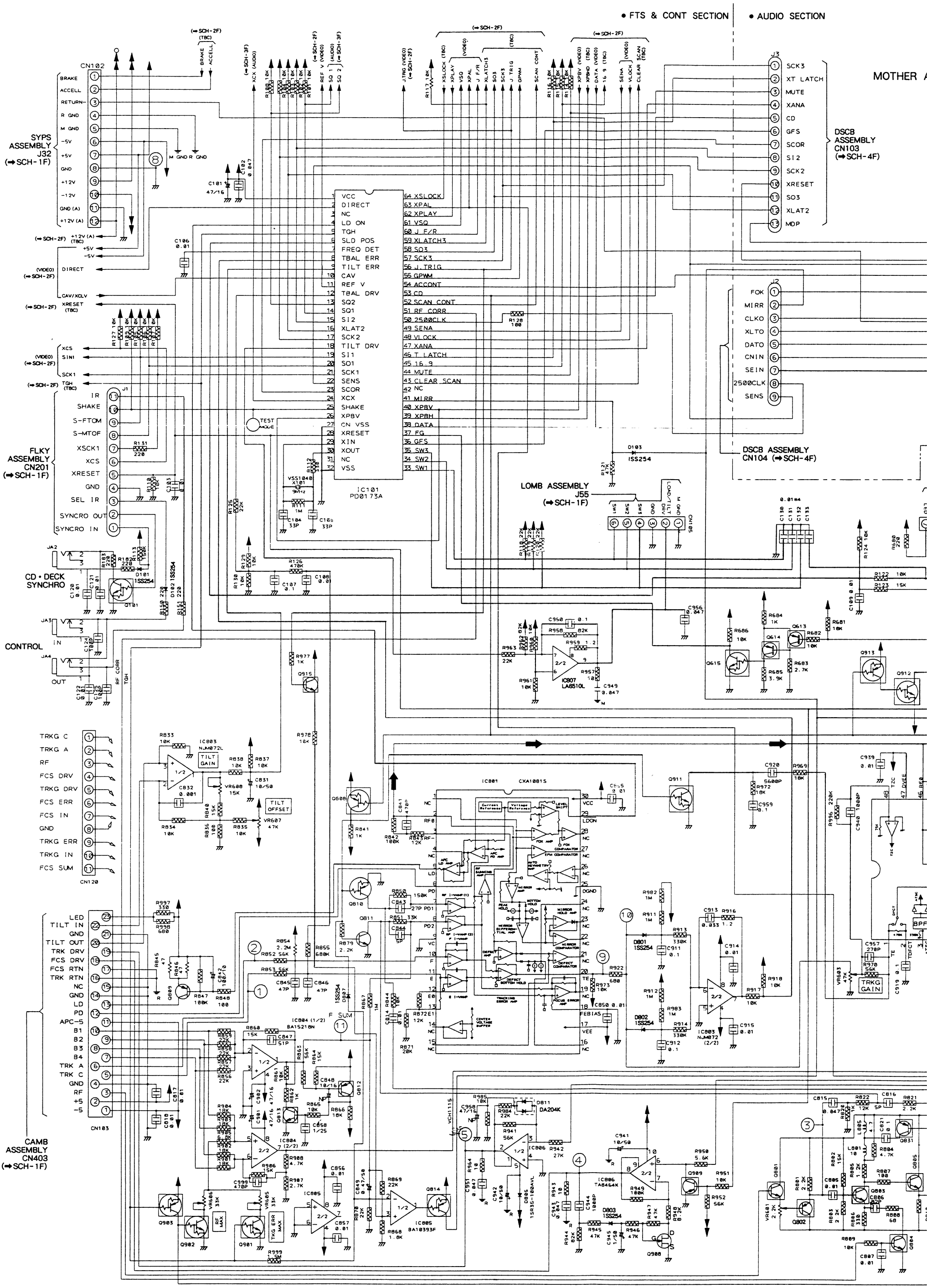
This P. C. B. connection diagram is viewed from the parts mounted side.

MOTHER ASSEMBLY



This P. C. B. connection diagram is viewed from the foil side.

3. MOTHER ASSEMBLY (2/2)



SCH-3F

MOTHER ASSY (2/2)
(FTS, CONT & AUDIO)

MOTHER ASSEMBLY (2/2) (VWX1167)

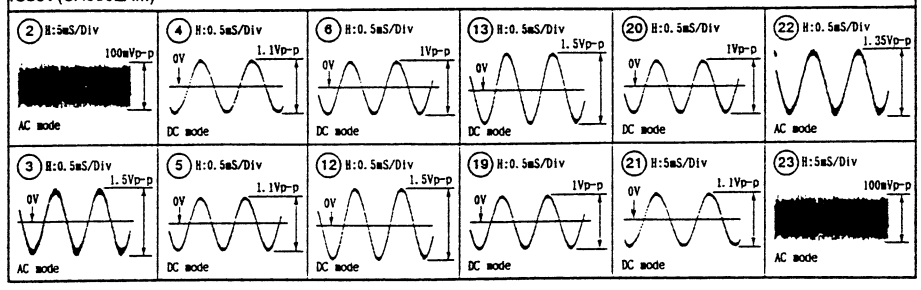
DSCB ASSEMBLY CN103 (➡SCH-4F)

Q611,613,614,802,812, Q831,905,909,917	2SA1037K
Q809	2SA1399
Q351	2SC1740S
Q352,801,803 – 805, Q807,811,813,915,918	2SC2412K
Q908	2SK184
Q808,810,814,903,913	DTA124EK
Q101,615,901,902,911, Q912,914	DTC124EK

Waveforms Note : (No.) in the table correspond to the pin No.

Values indicate the waveforms in the play mode.

IC351 (CA0002AM)


2 H:5mS/Div 100mVp-p AC mode
4 H:0.5mS/Div 1.1Vp-p 0V DC mode
6 H:0.5mS/Div 1Vp-p 0V DC mode
13 H:0.5mS/Div 1.5Vp-p 0V DC mode
20 H:0.5mS/Div 1Vp-p 0V DC mode
22 H:0.5mS/Div 1.35Vp-p AC mode
3 H:0.5mS/Div 1.5Vp-p 0V AC mode
5 H:0.5mS/Div 1.1Vp-p 0V DC mode
12 H:0.5mS/Div 1.5Vp-p 0V DC mode
19 H:0.5mS/Div 1Vp-p 0V DC mode
21 H:5mS/Div 1.1Vp-p 0V DC mode
23 H:5mS/Div 100mVp-p AC mode

SCH-3F

➡ : RF Signal Route
⇨ : Audio Signal Route (L ch)

IC602 (1/2) BA15218N

IC602 (1/2) : REFERENCE VOLTAGE BUFFER

Q611 : LOOP GAIN SW

Q905 : BUFFER

IC602 CXA1372S

IC307 (1/2) LA6510L

IC351 : FM AUDIO DECODER

Q351,Q352 : RF AMP

CAMB ASSEMBLY J46 (➡SCH-1F)

DSCB ASSEMBLY CN102 (➡SCH-4F)

DSCB ASSEMBLY CN101 (➡SCH-4F)

OPTICAL DIGITAL OUT

Note : Values indicate the voltage in the play mode.

- IC351 (CA0002AM)

Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	– 5	7	0	13	*	19	*
2	*	8	0	14	– 0.6	20	*
3	*	9	0	15	– 0.6	21	*
4	*	10	5	16	0	22	*
5	*	11	2	17	0	23	*
6	*	12	*	18	5	24	– 2.2

* : Refer to waveforms.

MOTHER ASSY (2/2) (FTS, CONT & AUDIO)

SCH-3F

4. DSCB ASSEMBLY

DSCB ASSEMBLY (VWV1296)

: RF Signal Route
: Audio Signal Route (Lch)
(D) : Audio Signal Route (Digital)

SCH-4F

IC102 : D/A CONVERTER

Q213 : INVERTER BUFFER

Q214 : INVERTER BUFFER

Q215 : MUTE CONTROL

Q212 : MUTE DRIVER when ZERO DETECTING

Q208,Q209 : ANALOGE SIGNAL ON/OFF

IC104,IC105 : LOW-PASS FILTER

Q207 : INVERTER BUFFER

Q206 : MUTE DRIVE

Q204,Q205 : MUTE

IC103 (2/2) : ATC EQ AMP

Q220 : VCXO SW

Q221 : BUFFER

IC103 (1/2) : VCXO EQ AMP

Q203 : INVERTER BUFFER

Q210 : MUTE DRIVER when ZERO DETECTING

Q216 : AUDIO MUTE CONTROL

Q222,Q223 : AUDIO SIGNAL BUFFER

IC108 : +8V REGULATOR

IC110 : +5V REGULATOR

IC106 : HEADPHONE AMP

Q113 : POWER ON DET. & IC107 SW CONTROL

IC109 : −8V REGULATOR

Q224 : DAC5V POWER SW

Q225 : DAC5V POWER SW CONTROL

Note : Values indicate the voltage in the play mode.
IC101 (CXD2500BQ)

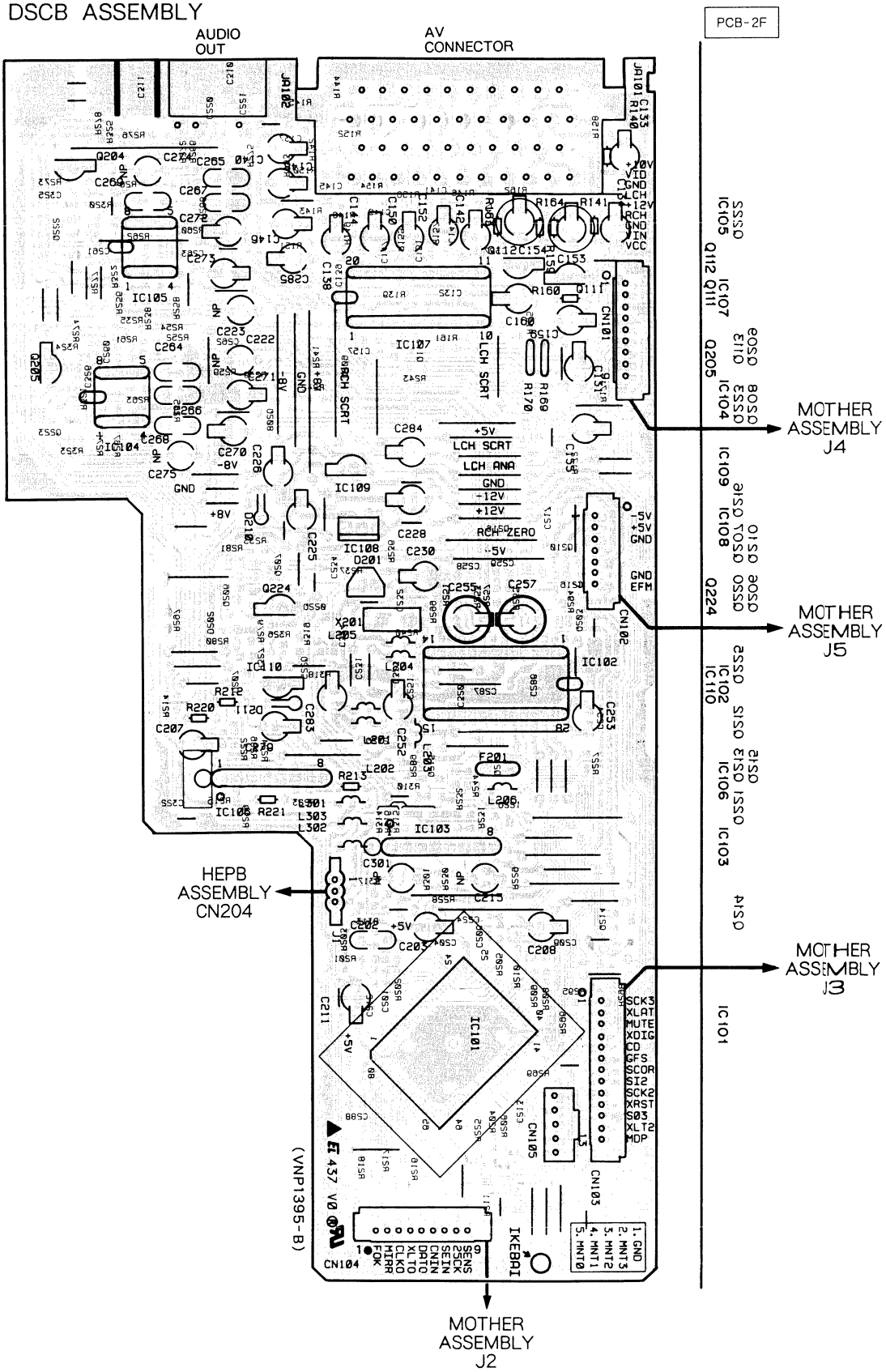
Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0	15	0	29	0	43	*	57	*	71	*
2	0	16	4.8	30	0	44	0	58	*	72	5
3	0	17	0	31	*	45	4.8	59	5	73	5
4	*	18	*	32	*	46	*	60	*	74	*
5	0	19	2.4	33	4.8	47	*	61	5	75	0
6	4.8	20	*	34	*	48	*	62	*	76	0
7	0	21	0	35	*	49	*	63	*	77	*
8	4.8	22	2.3	36	*	50	*	64	*	78	*
9	0	23	4.8	37	*	51	*	65	0	79	*
10	0	24	*	38	*	52	0	66	*	80	0
11	0	25	0	39	0	53	*	67	*		
12	0	26	0	40	4.8	54	*	68	0		
13	0	27	*	41	*	55	0	69	*		
14	0	28	0	42	*	56	*	70	5		

* : Refer to the waveforms

DSCB ASSY

SCH-4F

DSCB ASSEMBLY



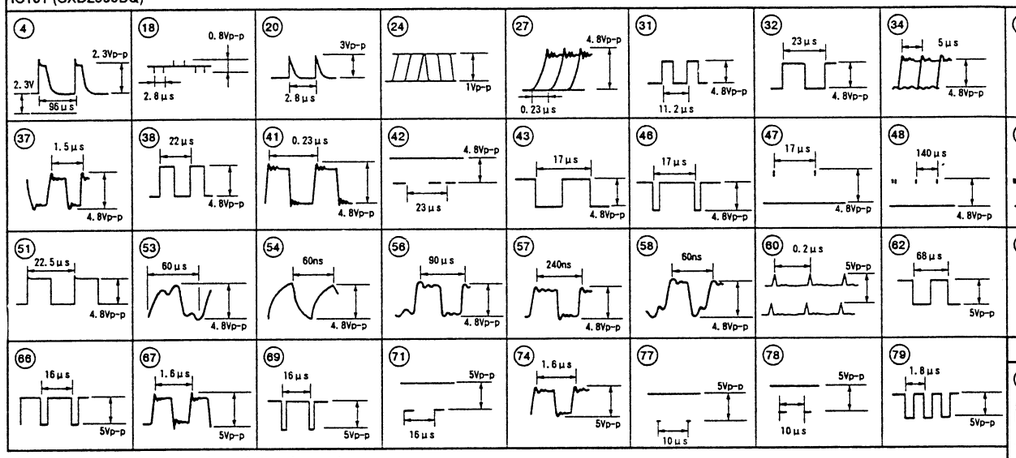
This P. C. B. connection diagram is viewed from the parts mounted side.

This P. C. B. connection diagram is viewed from the foil side.

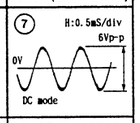
Waveforms of DSCB assembly

Note : (No.) in the table correspond to the pin No.

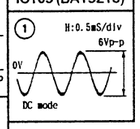
IC101 (CXD2500BQ)



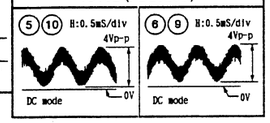
IC104 (BA15218B)



IC105 (BA15218)



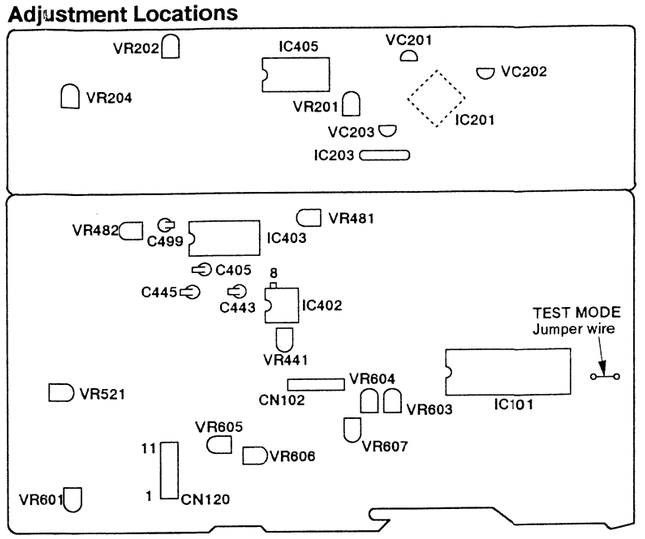
IC102 (PD2026B)



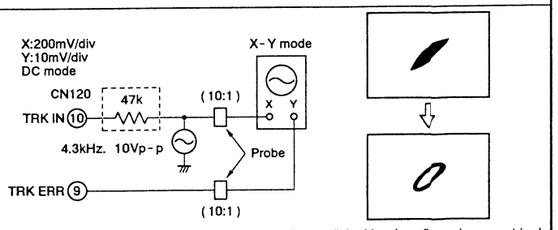
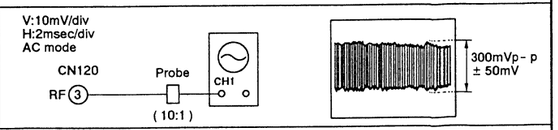
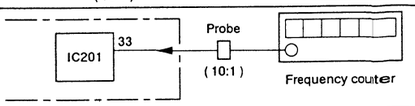
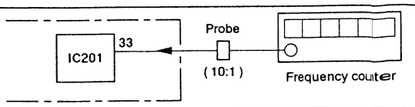
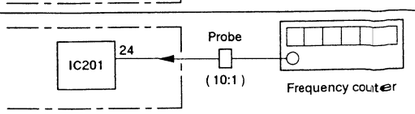
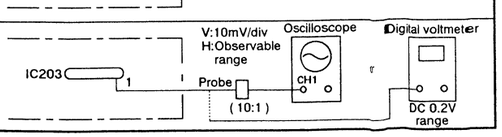
Note : Values indicate the waveforms in the play mode.

• ADJUSTMENTS

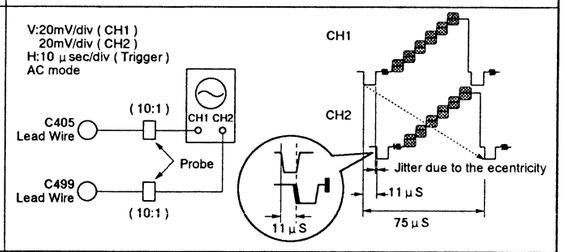
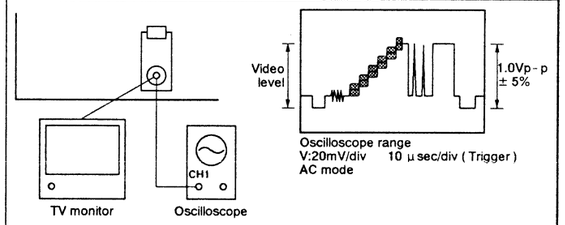
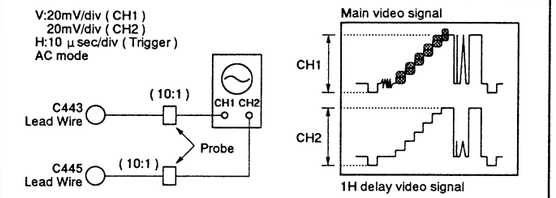
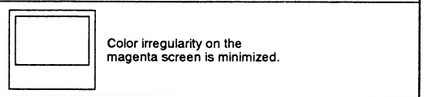
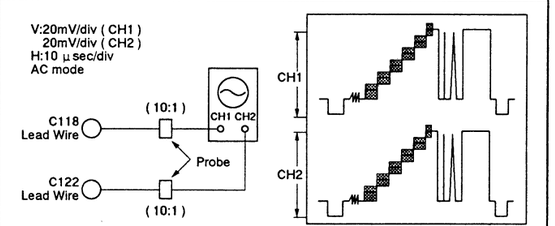
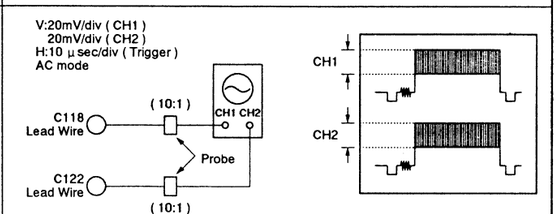
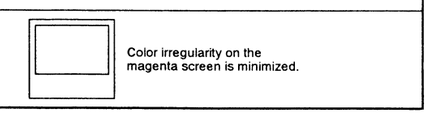
Adjustment Locations



MOTHER assembly section

	Adjustment name	Adjustment point	Measuring equipment and jigs	Measurement point	Player condition	Adjustment procedure	Waveform and connection diagram
9	TRK Servo loop gain adjustment	VR603	• Oscilloscope • GGV1003 • AF Oscillator • Resistor (47kΩ)	CN120 X: ⑩ Pin (TRK IN) Y: ⑨ Pin (TRK ERR)	• Test mode Stop mode or TRK Servo Close Tilt Servo ON • GGV1003 #15,000 STILL	1. Xch: Connect the 47kΩ resistor to channel and connect to TRK IN. Ych: Connect to TRK ERR. 2. Connect the AF oscillator between Xch and the 47kΩ resistor and note the tilt angle against the horizon with the disc in the stopped state. 3. Search for address 15,000 of GGV1003 and still the address. 4. Set the disc PLAY mode (TRK servo closed, TILT on). Adjust VR603 so that the tilt angle of the waveform will be the same as the tilt angle noted in step 3.	
10	RF level adjustment	VR601	• Oscilloscope • GGV1003	CN120 ③ Pin (RF)	• Test mode TRK Servo Close Tilt Servo ON • GGV1003 #15,000 STILL	1. Search for address 15,000 of GGV1003 and still the address. Observe RF at CH1 of the oscilloscope. 2. Adjust VR601 until the RF amplitude is 300mV ± 50mVp-p.	
11	NTSC reference clock adjustment	VC202	• Frequency counter • GGV1003	IC201 - ㉝ Pin (TBC CLK)	• NTSC PLAY mode Play the NTSC disc. or Select the NTSC mode with the SYSTEM button of the front panel. (*1)	Adjust 4fsc frequency (14.31818MHz) ± 100Hz.	
12	PAL reference clock adjustment	VC201	• Frequency counter • GGV1007	IC201 - ㉝ Pin (TBC CLK)	• PAL PLAY mode Play the PAL disc. or Select the PAL mode with the SYSTEM button of the front panel. (*1)	Adjust 910 fH frequency (14.21875MHz) ± 100Hz.	
13	PAL reference clock adjustment	VC203	• Frequency counter • GGV1007	IC201 - ㉔ Pin (OSD CLK)	• PAL PAUSE mode Play the PAL disc and set to PAUSE state. or Select the PAL mode with the SYSTEM button of the front panel. (*1)	Adjust 4fsc frequency (17.734475MHz) ± 100Hz	
14	PAL VCXO ERR OFFSET Check	VC201	• Oscilloscope • GGV1007 • Digital volt meter	IC203-① Pin (VCXO ERR)	• Play the PAL disc.	Play the PAL disc and check that the voltage of VCXO ERR at IC203-1 pin is 0V ± 100mV. If the specified voltage is not obtained, adjust VC201 so that the voltage becomes 0V ± 100mV. Note : The adjustment of VC201 in this step should have priority over that in step 12.	

*1 PAL mode → NTSC mode → MOD PAL mode → (cyclic change)

	Adjustment name	Adjustment point	Measuring equipment and jigs	Measurement point	Player condition	Adjustment procedure	Waveform and connection diagram
15	VCO center frequency adjustment	VR481	• Oscilloscope • GGV1007	CH1: C405 lead wire CH2: C499 lead wire	• Normal mode • GGV1007 #4,000 STILL	Place a trigger in CH1 and adjust until the center of the CH2 video signal jitter is 75 μsec (1H + 11 μsec) ± 1.4 μsec compared to the CH1 video signal.	
16	Video level adjustment	VR482	• TV monitor • Oscilloscope • GGV1003	Video output terminal	• Normal mode • GGV1003 #19,900 STILL	Connect a 75 Ω resistor to the VIDEO output terminal (possibly by connecting to the monitor) and adjust until the sync tip to 100% white level is 1Vp-p ± 5% at the white (100%) signal.	
17	1H delay video level adjustment	VR441	• Oscilloscope • GGV1003	CH1: C443 lead wire CH2: C445 lead wire	• Normal mode • GGV1003 #19,900 STILL	Adjust until the sync tip to 100% white level at the white (100%) signal is the same as in CH1 and CH2.	
18	VPS error level adjustment	VR521	• TV monitor • GGV1003	TV monitor	• Normal mode • GGV1003 #8,000 STILL (Magenta screen)	Adjust until the color irregularity on the magenta screen is minimized.	
19	MOD Y-signal level adjustment	VR204	• Oscilloscope • GGV1003	CH1: IC205-② Pin CH2: IC205-① Pin	• Normal mode • GGV1003 #19,900 STILL	Adjust until the sync tip to 100% white level at the white (100%) signal is the same as in CH1 and CH2.	
20	MOD C-signal level adjustment	VR202	• Oscilloscope • GGV1003	CH1: IC205-② Pin CH2: IC205-① Pin	• Normal mode • GGV1003 #8,000 STILL	Adjust until the chroma signal level at the magenta signal is the same as in CH1 and CH2.	
21	PAL inverting SC phase adjustment	VR201	• TV monitor • GGV1007	TV monitor	• Normal mode • GGV1007 #6,500 STILL (Magenta screen)	Adjust until the color irregularity on the magenta screen is minimized.	

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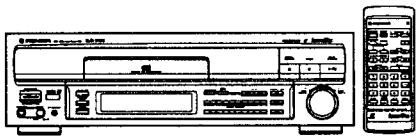
Service Manual



ORDER NO.
ARP2543

CD CDV LD PLAYER

CLD-1700
CLD-700

CLD-1700 AND CLD-700 HAVE THE FOLLOWING :

Type	Model		Power Requirement	Remarks
	CLD-1700	CLD-700		
HEZ	○	○	AC220-230V, 240V(switchable) *	
HB	–	○	AC220-230V, 240V(switchable) *	

*Change the connection of the power transformer's primary wiring.

- **This manual is applicable to the following : CLD-1700/HEZ; CLD-700/HEZ and HB.**
- **For CLD-700/HEZ and HB, refer to page 82.**
- **Ce manuel pour le service comprend les explications de réglage en français.**
- **Este manual de servicio trata del método ajuste escrito en español.**

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PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS SERVICE INC. P.O. Box 1760, Long Beach, California 90801 U.S.A.
PIONEER ELECTRONICS OF CANADA, INC. 300 Allstate Parkway Markham, Ontario L3R 0P2 Canada
PIONEER ELECTRONIC [EUROPE] N.V. Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia TEL: [03] 580-9911

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ISO JUNE 1992 Printed in Japan

1. SAFETY INFORMATION

(FOR EUROPEAN MODEL ONLY)

VARO!
AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSATEILYLLE. ÄLÄ KATSO SÄTEESEEN.

ADVERSEL:
USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGÅ UDSAETTELSE FOR STRÅLING.

VARNING!
OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.

LASER
Kuva 1
Lasersateilyn varoitusmerkki

WARNING!
DEVICE INCLUDES LASER DIODE WHICH EMITS INVISIBLE INFRARED RADIATION WHICH IS DANGEROUS TO EYES. THERE IS A WARNING SIGN ACCORDING TO PICTURE 1 INSIDE THE DEVICE CLOSE TO THE LASER DIODE.

IMPORTANT
THIS PIONEER APPARATUS CONTAINS LASER OF CLASS 1.
SERVICING OPERATION OF THE APPARATUS SHOULD BE DONE BY A SPECIALLY INSTRUCTED PERSON.

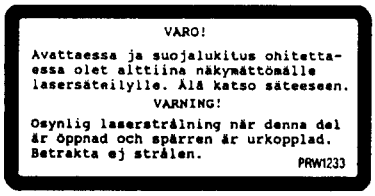
LASER DIODE CHARACTERISTICS
MAXIMUM OUTPUT POWER: 5 mw
WAVELENGTH: 780-785 nm

LASER
Picture 1
Warning sign for laser radiation

LABEL CHECK

HB model

HEZ model

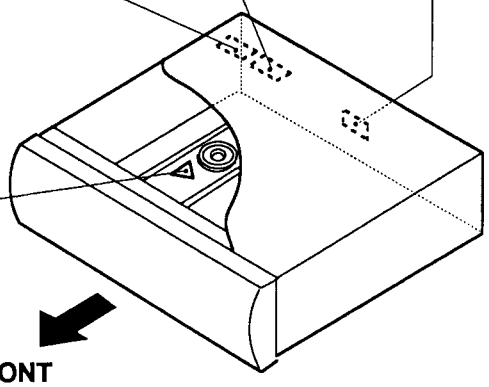

VARO!
Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.
VARNING!
Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.
PRW1233

HEZ and HB model

HEZ model

ADVARSEL
USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHED SAFBRYDERE ER UDE AF FUNKTION.
UNDGÅ UDSÆTTELSE FOR STRÅLING.
VORSICHT!
UNSICHTBARE LASER-STRAHLUNG TRITT AUS, WENN DECKEL (ODER KLAPPE) GEÖFFNET IST! NICHT DEM STRAHL AUSSETZEN!
VRW1094

HEZ and HB models



FRONT

Additional Laser Caution

1. The ON/OFF statuses of the slider - position detection switches (PARK INNER, PARK OUTER on the PKSB assembly), loading - status detection switches (SW 1, 2 and 3 on PKSB assembly) are detected by the microprocessor (IC101 in the MAIN assembly). To permit the laser diode to oscillate, it is required to set the slider - position detection switch for the LD ACTIVE status (PARK INNER: OFF, PARK OUTER: OFF), and to set the loading - status detection switch for clamped state (SW1: OFF, SW2: ON, SW3: ON). As long as these requirements are not satisfied, the laser diode will not oscillate. When the requirements are met in any way, the laser diode can oscillate. The laser diode oscillation will continue if pin 29 of IC801 is shorted to GND or the emitter and collector of Q809 are shorted each other (fault condition) in MAIN assembly.
   In test mode (see page 51), the laser diode oscillates when microprocessor detects a PLAY signal or when the PLAY key is pressed (S223: ON in the FLKY assembly), with the above requirements satisfied.
2. When the cover is open, close viewing through the objective lens with the naked eye will cause exposure to a Class 1 laser beam.

2. EXPLODED VIEWS, PACKING AND PARTS LIST

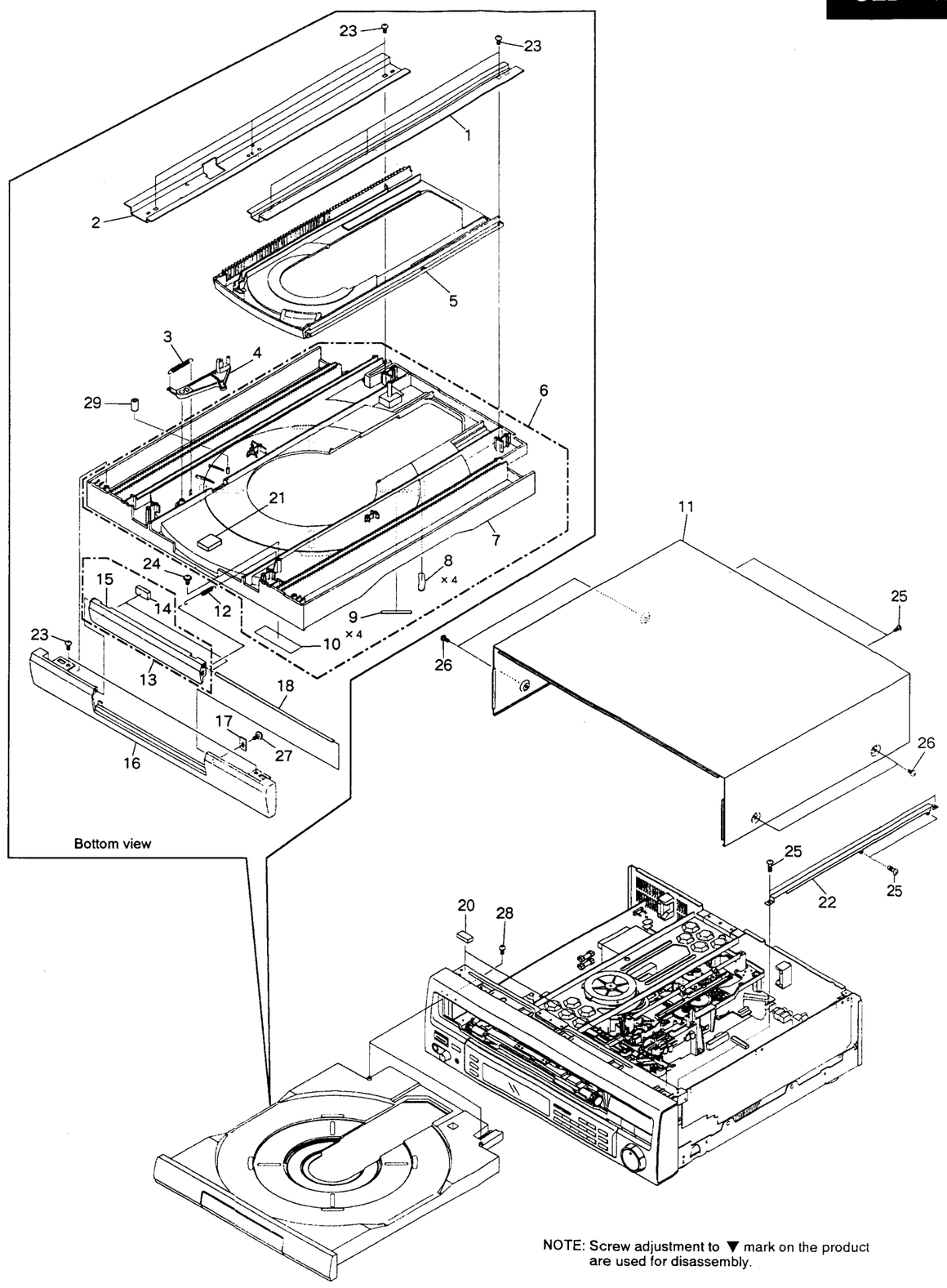
NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

(1) EXTERIOR SECTION

Parts List

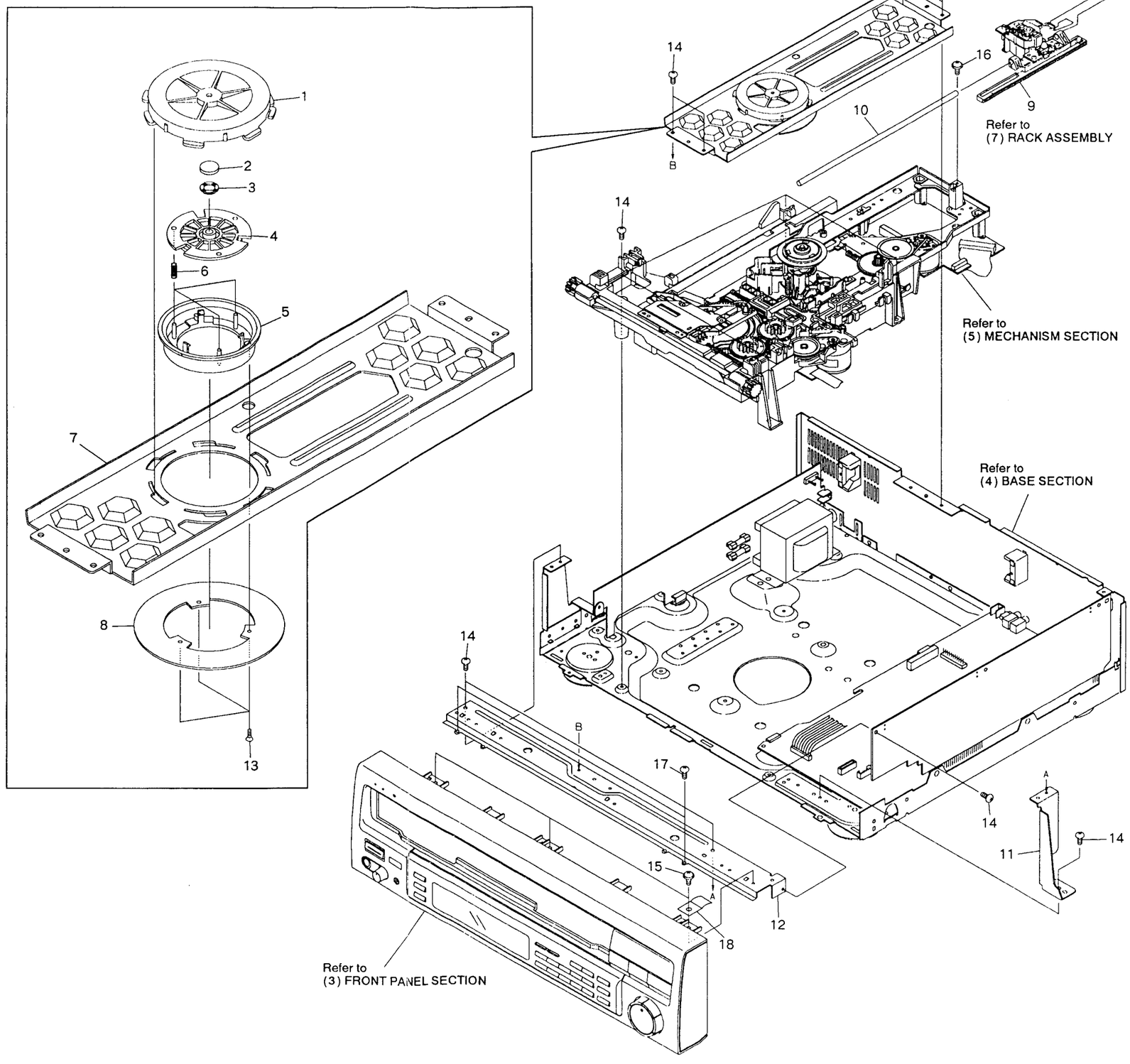
Mark	No.	Description	Part No.
	1	Guide plate (L)	VNE1805
	2	Guide plate (R)	VNE1806
	3	Lock plate spring	VBH1188
	4	Lock plate	VNL1513
	5	CD tray	VNK1992
	6	Tray assembly - S	VXX1729
NSP	7	LD tray	VNK1991
	8	Disc pad	VEC1191
	9	Disc pad (C)	VEC1380
NSP	10	Label	VRW1289
	11	Bonnet S	VXX1726
	12	Door spring	VBH1202
	13	CD door assembly - S	VXX1728
	14	Cushion	VEC1578
NSP	15	CD door	VNK2033
	16	Tray panel	VNK2032
	17	Door holder	VNE1812
	18	Door shaft	VLL1441
	19	• • • • •	
NSP	20	Spacer	VEC1585
NSP	21	Damp cushion	VEC1110
NSP	22	PCB holder	VNE1830
	23	Screw	BPZ30P060FCU
	24	Screw	IPZ26P060FMC
	25	Screw	BBZ30P080FCC
	26	Screw	BCZ40P060FZK
	27	Screw	IPZ20P050FMC
	28	Screw	VBA1032
	29	Tray rubber	VEB1091



(2) TOP VIEW SECTION

Parts List

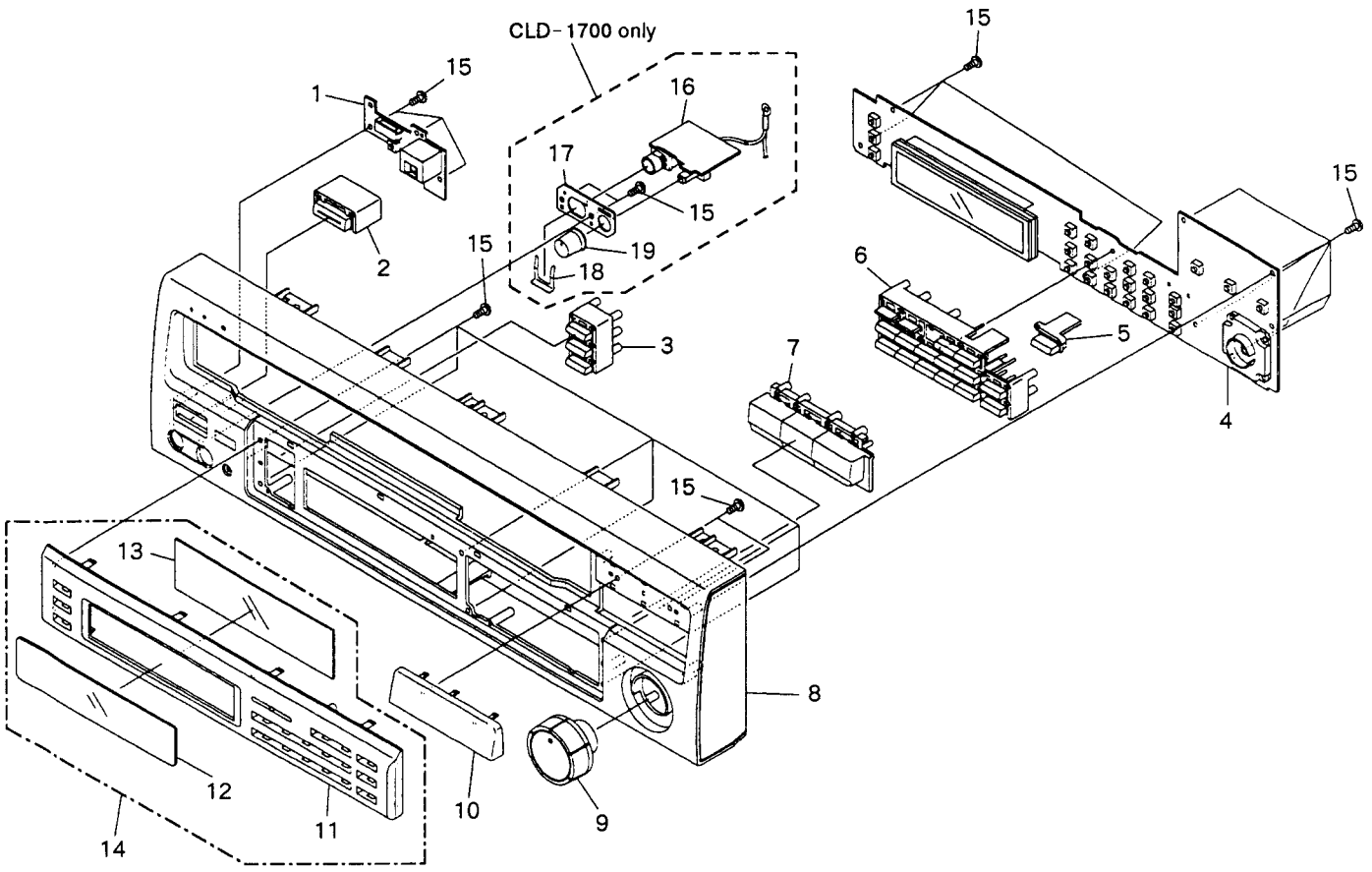
Mark	No.	Description	Part No.
	1	Clamper holder	VNL1514
	2	Rubber sheet	VEB1114
	3	Thrust holder	VNL1289
	4	Clamper head	VNL1516
	5	Clamper	VNL1515
	6	Clamper spring	VBH1192
	7	Clamper arm	VNE1804
	8	Stabilizer	VNE1807
	9	Rack assembly	VWT1080
	10	Carriage shaft	VLL1434
NSP	11	Side stay (R)	VNE1810
NSP	12	Front angle	VNE1808
	13	Screw	CPZ20P050FMC
	14	Screw	BBZ30P080FCC
	15	Screw	IBZ30P060FCC
	16	Screw	IPZ30P060FMC
	17	Screw	PCZ30P060FMC
	18	Earth plate	VNE1518



(3) FRONT PANEL SECTION

Parts List

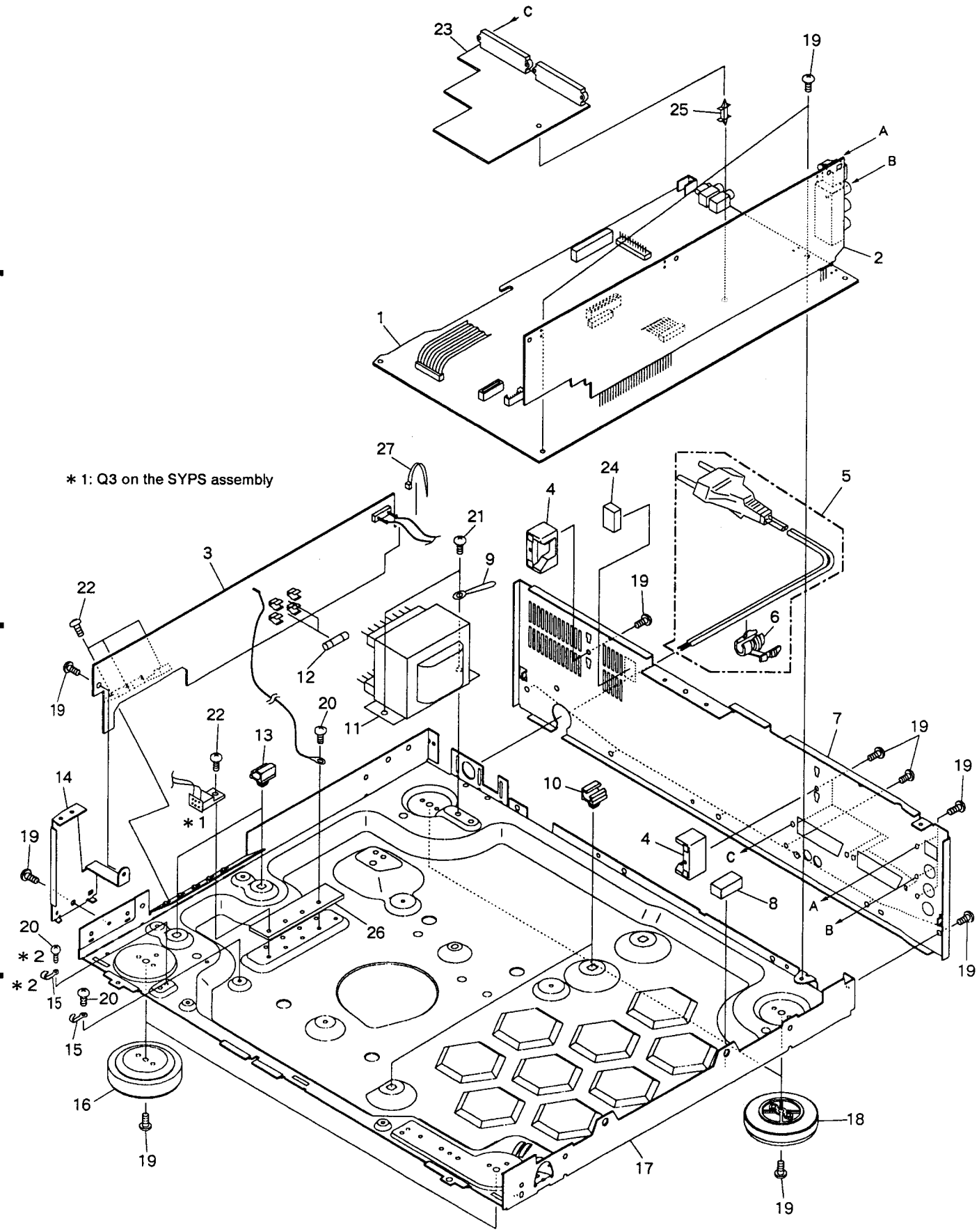
Mark	No.	Description	Part No.
NSP	1	PSWB assembly	VWG1315
	2	PW button	VNK2002
	3	Mode key	VNK2037
NSP	4	FLKY assembly	VWG1336
	5	CD button	VNK2038
	6	Ten key	VNK2036
	7	Main key	VNK2035
	8	Front panel assembly	VXA1867
	9	Shuttule knob	VNK2039
	10	Sub panel	VNK2034
NSP	11	Center panel	VNK2085
	12	FL lens	VEC1568
	13	FL filter	VNK1694
	14	Center panel assembly - S	VXX1757
	15	Screw	BPZ26P060FCU
NSP	16	HEPB assembly	VWV1254
	17	Jack holder	VNE1811
	18	Snap plate	VNE1102
	19	Volume knob	VNK2003



(4) BASE SECTION

Parts List

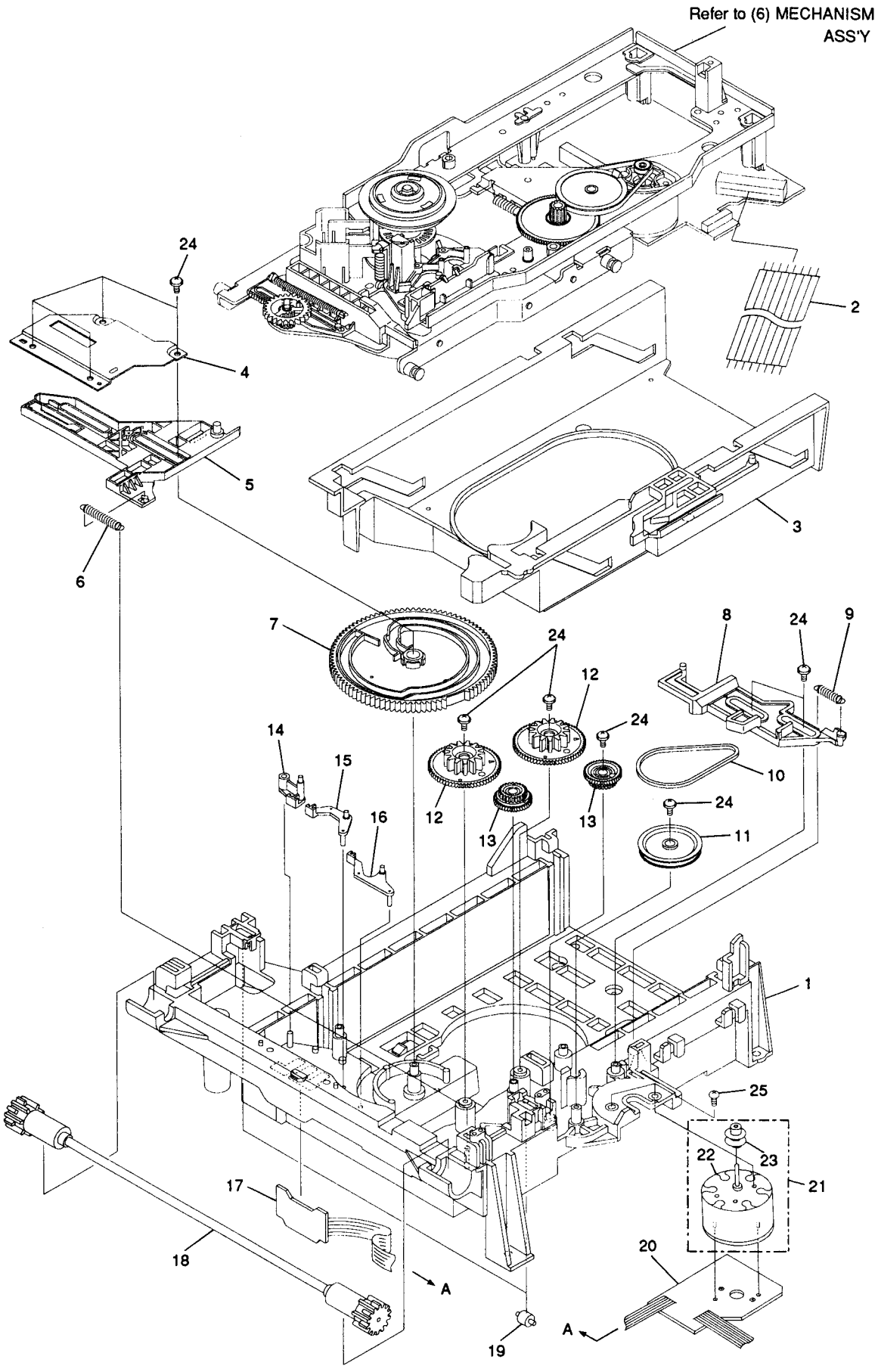
Mark	No.	Description	Part No.
NSP	1	MAIN assembly	VWX1123
NSP	2	AUDIO assembly	VWX1124
◉	3	SYPS assembly	VWR1146
	4	Tray stopper	VNL1519
⚠	5	AC power cord	VDG1028
	6	Cord stopper	CM-22B
NSP	7	Rear panel	VNA1278
	8	PCB cushion	VEC1573
NSP	9	Cord clamper	VNF-005
NSP	10	PCB hinge	VEC1174
⚠	11	Power transformer	VTT1115
⚠	12	Fuse (FU1, FU2) (3.15A)	REK-105
NSP	13	P. plate holder	PNY-405
NSP	14	Side stay (L)	VNE1809
	15	Cord clamper	VNF-069
	16	Insulator	PNW1912
NSP	17	Base chassis	VNA1255
	18	Insulator assembly	VXA1881
	19	Screw	BBZ30P080FCC
	20	Screw	BBZ30P040FMC
	21	Screw	BCZ40P060FZK
	22	Screw	BCZ30P080FCC
◉	23	SCRB assembly	VWV1248
NSP	24	Support cushion	VEC1601
NSP	25	PC suport	VEC1584
NSP	26	Plate	VNE1854
	27	Binder	VEC-067


* 1: Q3 on the SYPS assembly
* 2: CLD - 1700 only

(5) MECHANISM SECTION

Parts List

Mark	No.	Description	Part No.
	1	Mechanism base	VNK1990
	2	Flexible cable	VDA1409
	3	Clamp cam	VNL1500
	4	Shaft holder	VNE1817
	5	Cam plate	VNL1511
	6	CAS spring	VBH1190
	7	Cam gear	VNL1507
	8	CD plate	VNL1512
	9	CDP spring	VBH1191
	10	Rubber belt	VEB1184
	11	Gear pulley	VNL1510
	12	Twin gear	VNL1508
	13	Center gear	VNL1509
	14	L-SW lever	VNL1504
	15	C-SW lever	VNL1505
	16	R-SW lever	VNL1506
NSP	17	LOSB ASS'Y	VWG1307
	18	Synchro gear ASS'Y	VXA1822
	19	Roller	VNL1042
NSP	20	LOMB ASS'Y	VWG1308
	21	Loading motor ASS'Y	VXX1712
NSP	22	Slider motor	VXM1033
	23	Motor pulley	PNW1643
	24	Screw	Z39-019
	25	Screw	BMZ26P040FMC


Refer to (6) MECHANISM ASS'Y
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(6) MECHANISM ASS'Y

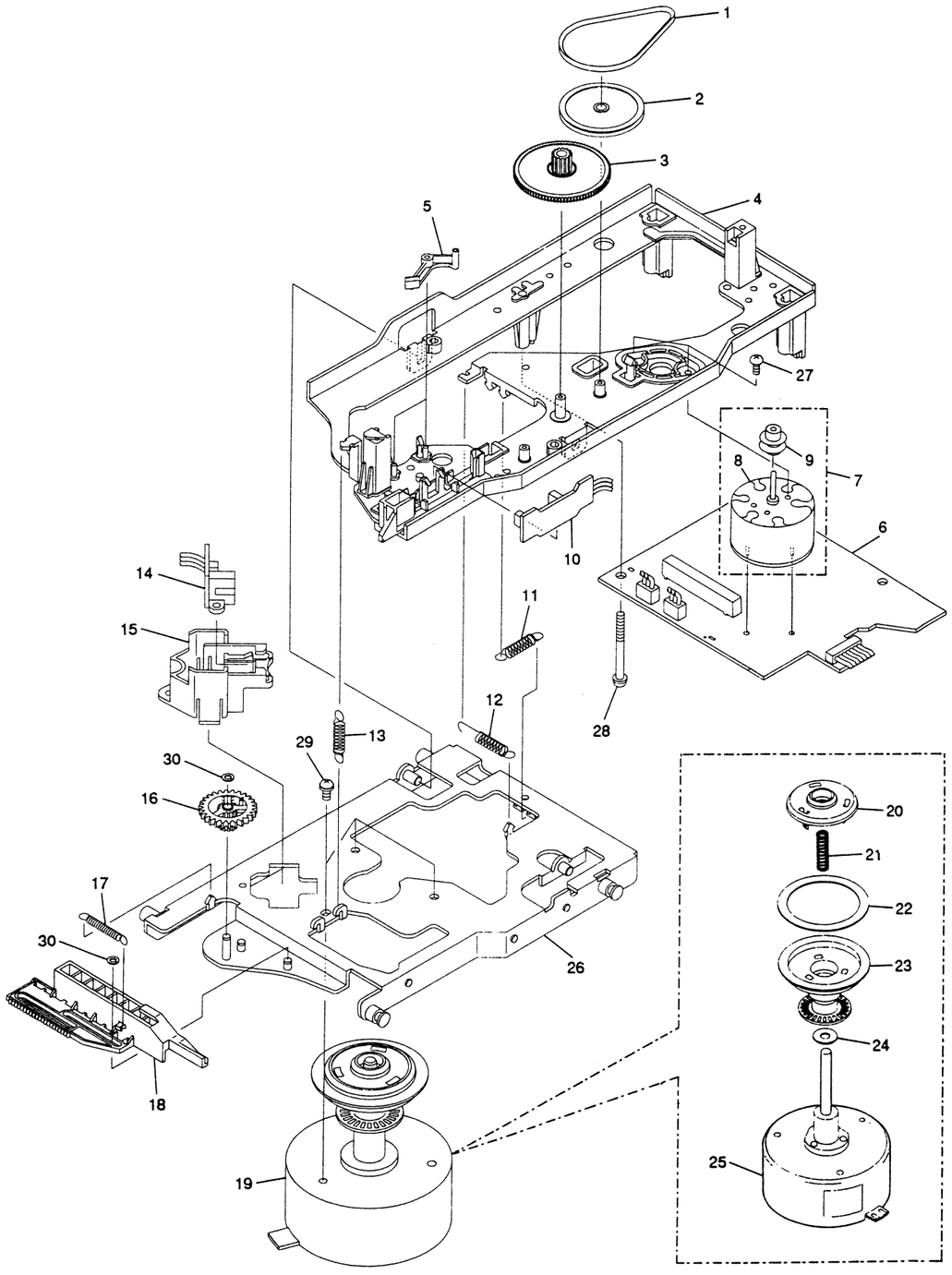
Parts List

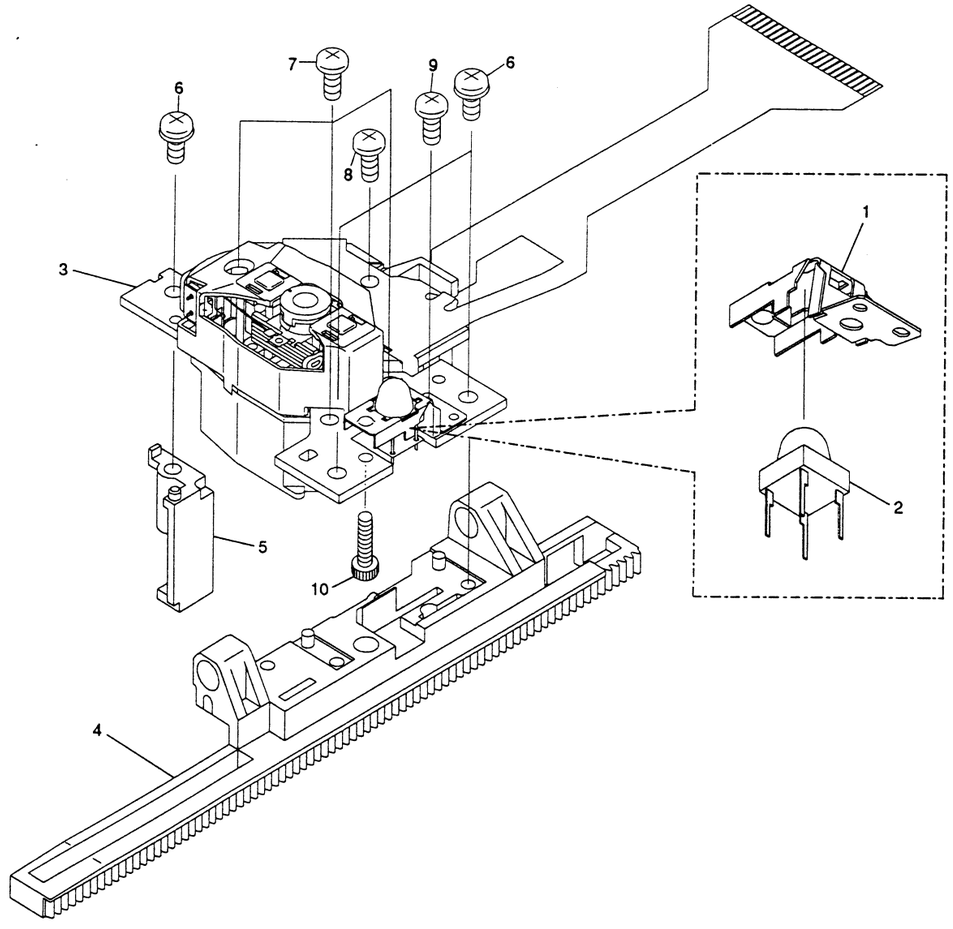
Mark	No.	Description	Part No.
	1	CA belt	VEB1077
	2	CA pulley	VNL1496
	3	CA gear	VNL1497
	4	Tilt base	VNL1499
	5	CA-SW lever	VNL1498
NSP	6	CAMB ASS'Y	VWG1306
	7	CRG motor ASS'Y	VXX1261
NSP	8	Slider motor	VXM1033
	9	CA pulley (1)	VNL1197
NSP	10	PKSB ASS'Y	VWG1305
	11	Radial spring	VBH1201
	12	Thrust spring	VBH1200
	13	Tilt tension	VBH1187
NSP	14	FG ASS'Y	VWG1304
	15	FG base	VNL1503
	16	Y gear	VNL1501
	17	Tilt cam spring	VBH1189
	18	Tilt cam	VNL1502
	19	Spindle motor ASS'Y	VXA1825
	20	Centering hab	VNL1174
	21	Centering spring	VBH1083
NSP	22	Rubber sheet	VEB1103
NSP	23	Turn table ASS'Y	VXA1283
NSP	24	Oil stopper	VBF1002
NSP	25	Spindle motor	VXM1050
	26	Motor base	VNE1803
	27	Screw	BMZ26P040FMC
	28	Screw	ABZ30P300FMC
	29	Screw	PMA30P050FMC
	30	Washer	WT26D060D025

(7) RACK ASS'Y

Parts List

Mark	No.	Description	Part No.
NSP	1	Sensor stay	VBK1036
NSP	2	Tilt sensor	SG–302
NSP	3	Pick up ASS'Y	VWY1030
	4	Rack	VNL1495
	5	Tan. base	VNL1494
	6	Screw	PBB26P080FMC
	7	Screw	PMA20P060FMC
	8	Screw	PMA20P080FMC
	9	Screw	PMH20P040FMC
	10	Screw	SMZ20H120FZK





(8) F

Parts

Mark
NSP
NSP
NSP
NSP

C

D

E

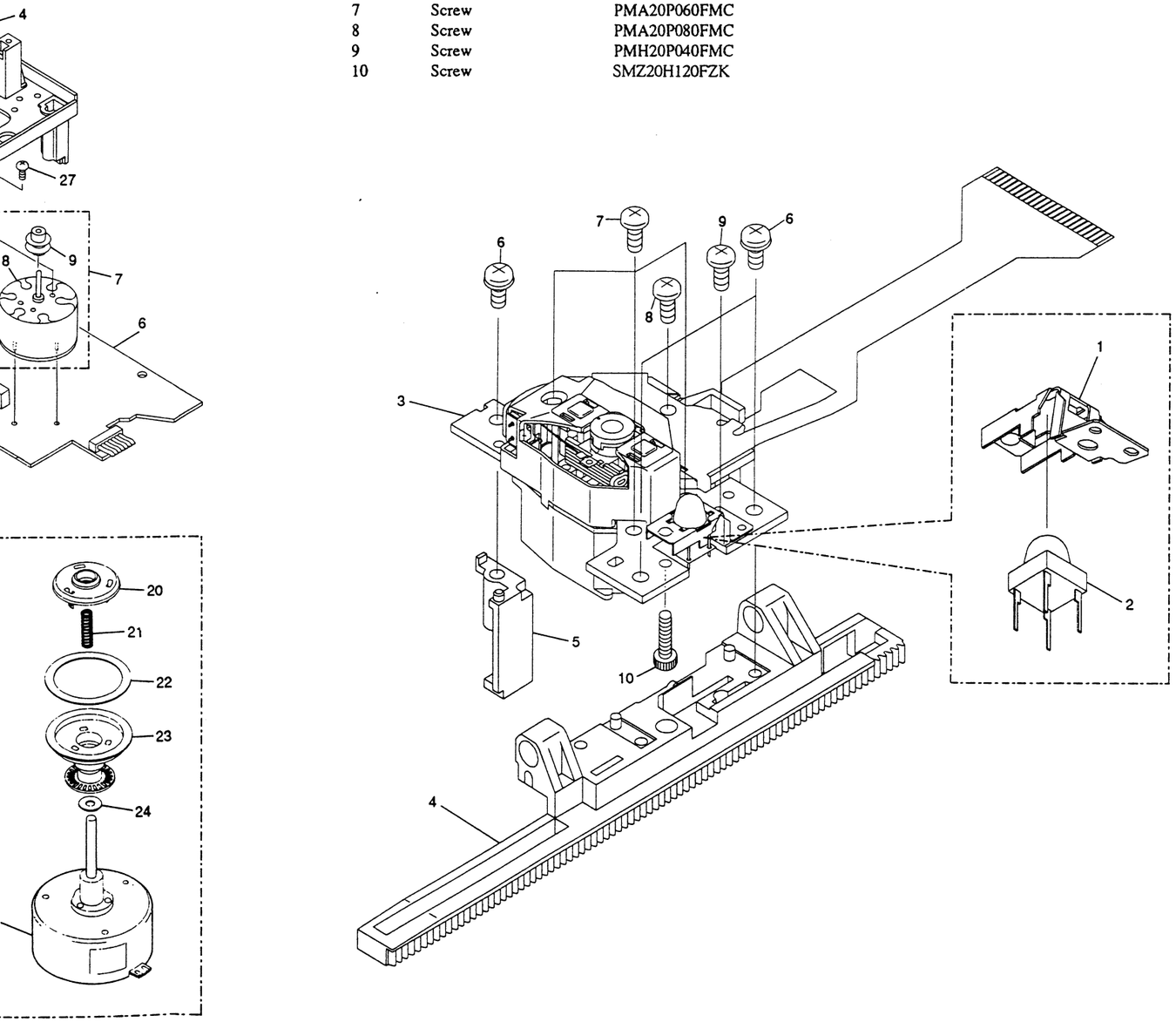
F

1 2 3 4 5 6

(7) RACK ASS'Y

Parts List

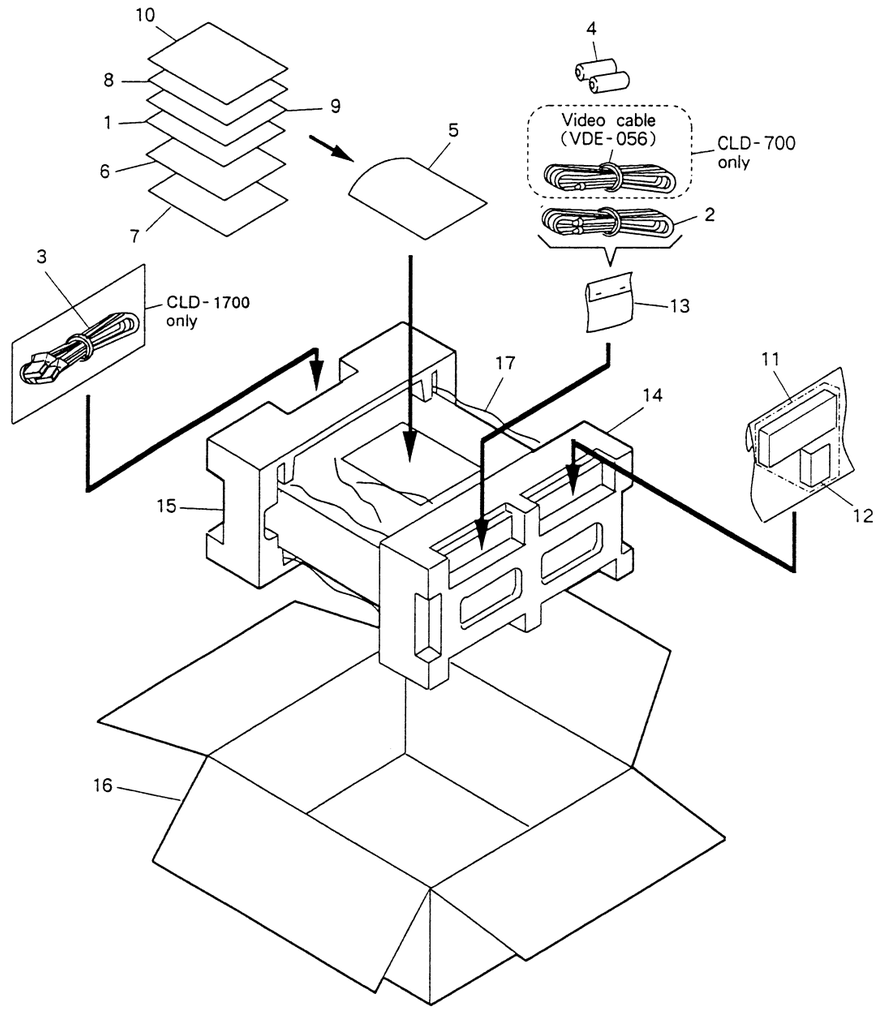
Mark	No.	Description	Part No.
NSP	1	Sensor stay	VBK1036
NSP	2	Tilt sensor	SG–302
NSP	3	Pick up ASS'Y	VWY1030
	4	Rack	VNL1495
	5	Tan. base	VNL1494
	6	Screw	PBB26P080FMC
	7	Screw	PMA20P060FMC
	8	Screw	PMA20P080FMC
	9	Screw	PMH20P040FMC
	10	Screw	SMZ20H120FZK



(8) PACKING

Parts List

Mark	No.	Description	Part No.
NSP	1	Warranty card	ARW-088
	2	Connection cord	VDE-055
	3	Euro scart cable (21P)	VDE1027
NSP	4	Battery (R03, AAA)	VEM-022
NSP	5	Polyethylene bag	VHL-014
	6	Operating instructions (English/French/German/Italian)	VRE1010
	7	Operating instructions (Dutch/Swedish/Spanish/Portuguese)	VRF1017
NSP	8	Caution card (EW)	VRM1027
NSP	9	Caution card (UC)	VRM1039
NSP	10	Caution card	VRR1009
	11	Remote control unit (CU-CLD077)	VXX1758
	12	Baterry cover	VNK1293
NSP	13	Polyethylene bag	Z21-029
	14	Pad (F)	VHA1105
	15	Pad (R)	VHA1106
	16	Packing case	VHG1228
	17	Mirror mat	VHL1006



3. SCHEMATIC AND PCB CONNECTIONS DIAGRAMS

3.1 FLKY, PSWB, HEPB, SYPS, CAMB, LOSB, LOMB, FG, PKSB, PICKUP ASSEMBLIES AND OVERALL WIRING DIAGRAM

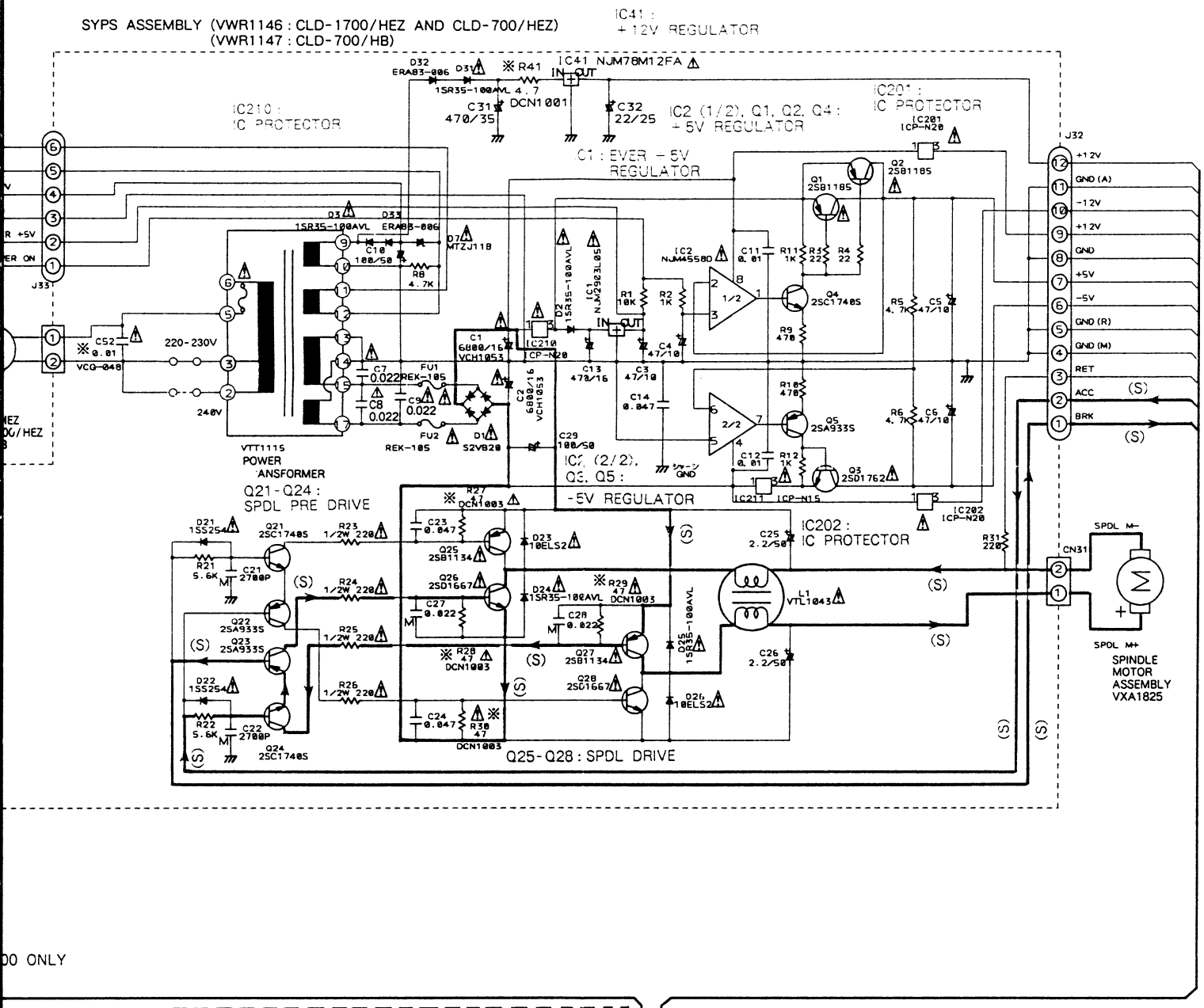
: RF Signal Line

(S) : SPDL Servo Loop Line

(T) : TRKG Servo Loop Line

: FOCS Servo Loop Line

SYPS ASSEMBLY (VWR1146 : CLD-1700/HEZ AND CLD-700/HEZ)
(VWR1147 : CLD-700/HB)



00 ONLY

MOTHER ASSEMBLY
(VWM1276 : CLD-1700)
(VWM1264 : CLD-700)

(MAIN ASSEMBLY
AUDIO ASSEMBLY)

(➡ P25-P30)

CN120
1 TRKG C
2 TRKG A
3 RF
4 FCS DRV
5 TRKG DRV
6 FCS ERR
7 FCS IN
8 GND
9 TRKG ERR
10 TRKG IN
11 FCS SUM

CN102
+12V
GND (A)
-12V
+12V
GND
+5V
-5V
GND (R)
GND (M)
SPDL RET
ACC
BRK

CLD-1700
CLD-700
RCA VIDEO
GND
AUDIO L
+10V STUS
AUDIO R
GND
+12V
+5V
VIDEO
-5V
J F/R
X PLAY
MIRR
J401

SCRB ASSEMBLY
(VWV1248 : CLD-1700)
(VWV1255 : CLD-700)

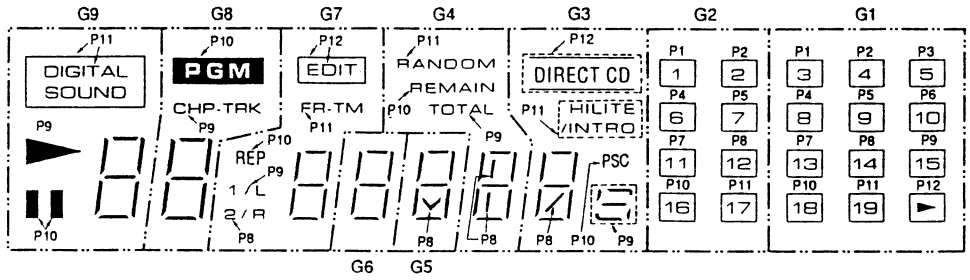
(➡ P41-P42)

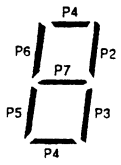
CN201
RCA VIDEO
GND
AUDIO L
+10V STUS
AUDIO R
GND
+12V
+5V
VIDEO
-5V
J F/R
X PLAY
MIRR

CLD-700
CLD-1700

FL Display (V201: VAW 1026)

- ANODE GRID ASSIGNMENT





Note: (Type 4)

1. When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".

2. Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.

3. RESISTORS:
Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
Tolerance:(F):±1%, (G):±2%, (K):±10%, (M):±20% or ±5% unless otherwise noted.

4. CAPACITORS:
Unit : p:pF or μF unless otherwise noted.
Ratings : capacitor (μF) / voltage (V) unless otherwise noted.
Rated voltage : 50V except for electrolytic capacitors.

5. COILS:
Unit : m:mH or μH unless otherwise noted.

6. VOLTAGE AND CURRENT:
▭ : DC voltage (V) in PLAY mode unless otherwise noted.
⇦mA or ←mA: DC current in PLAY mode unless otherwise noted.
Value in ( ) is DC current in STOP mode.

7. OTHERS
- ➡ : Signal route.
- ⊘ : Adjustment point.
- ▼(Red) : Measurement point.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.

8. SWITCHES (Underline indicates switch position):
PKSB ASSEMBLY
S224 :POWER (STANDBY/ON)

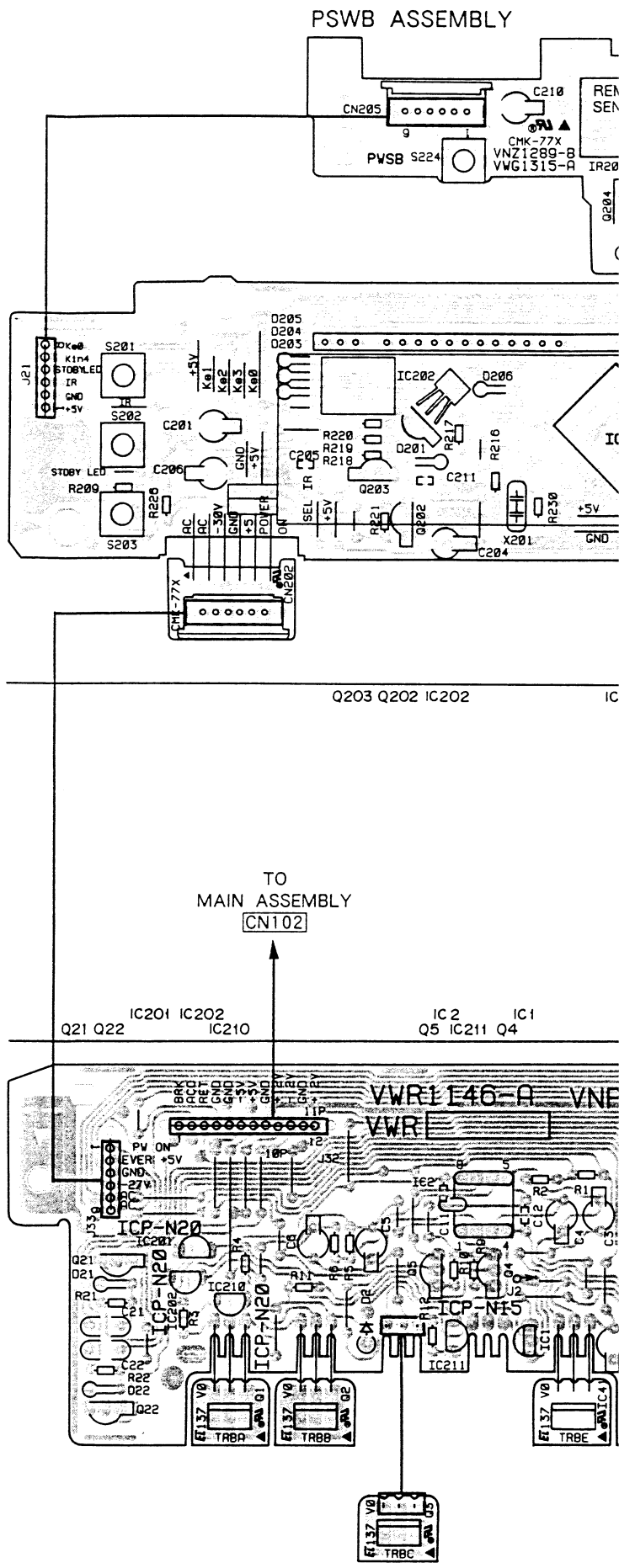
PKSB ASSEMBLY
S4 :PARK OUT
S5 :PARK IN

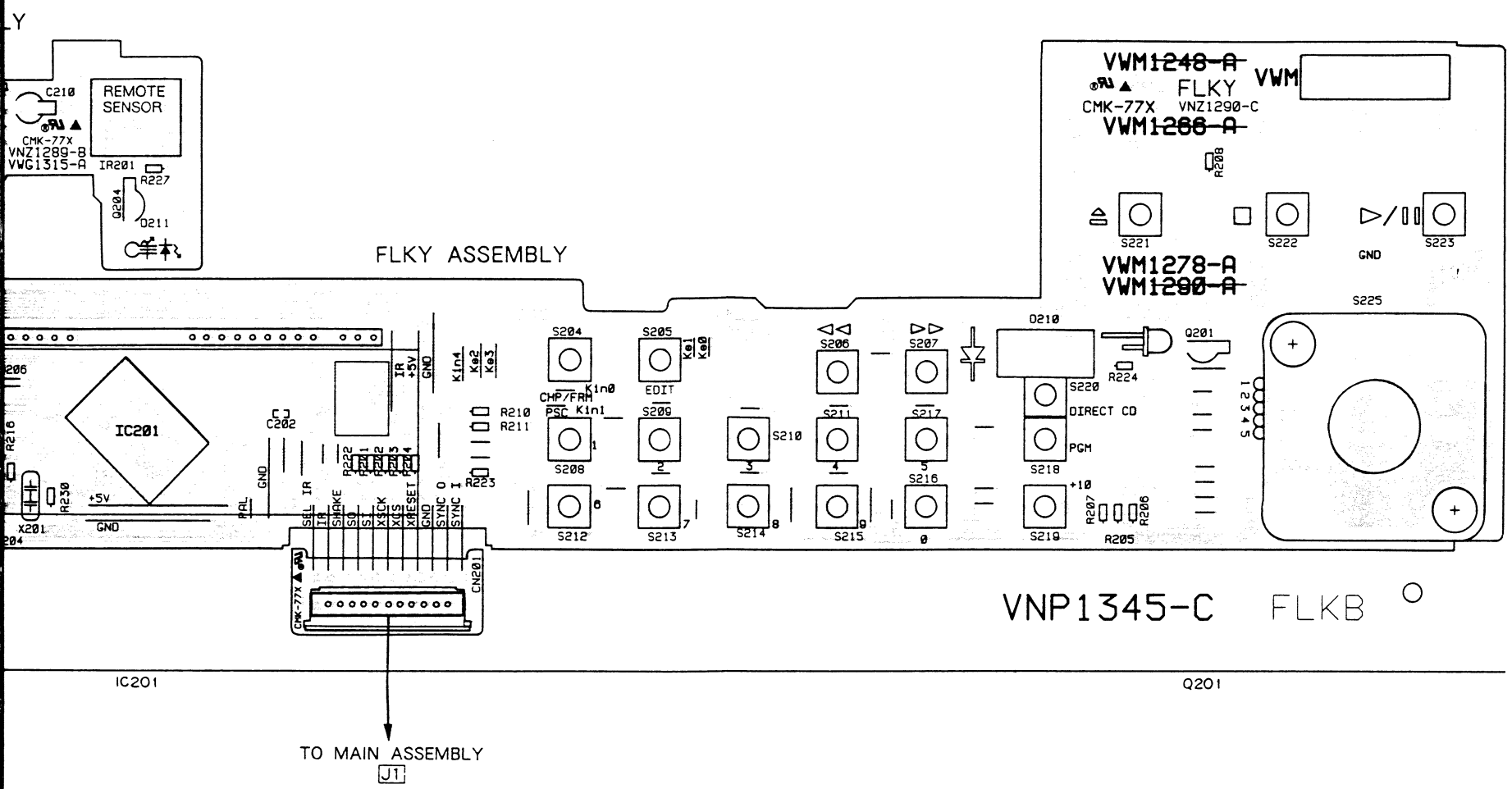
LOSB ASSEMBLY
S1 :TILT LOADING 1
S2 :TILT LOADING 2
S3 :TILT LOADING 3

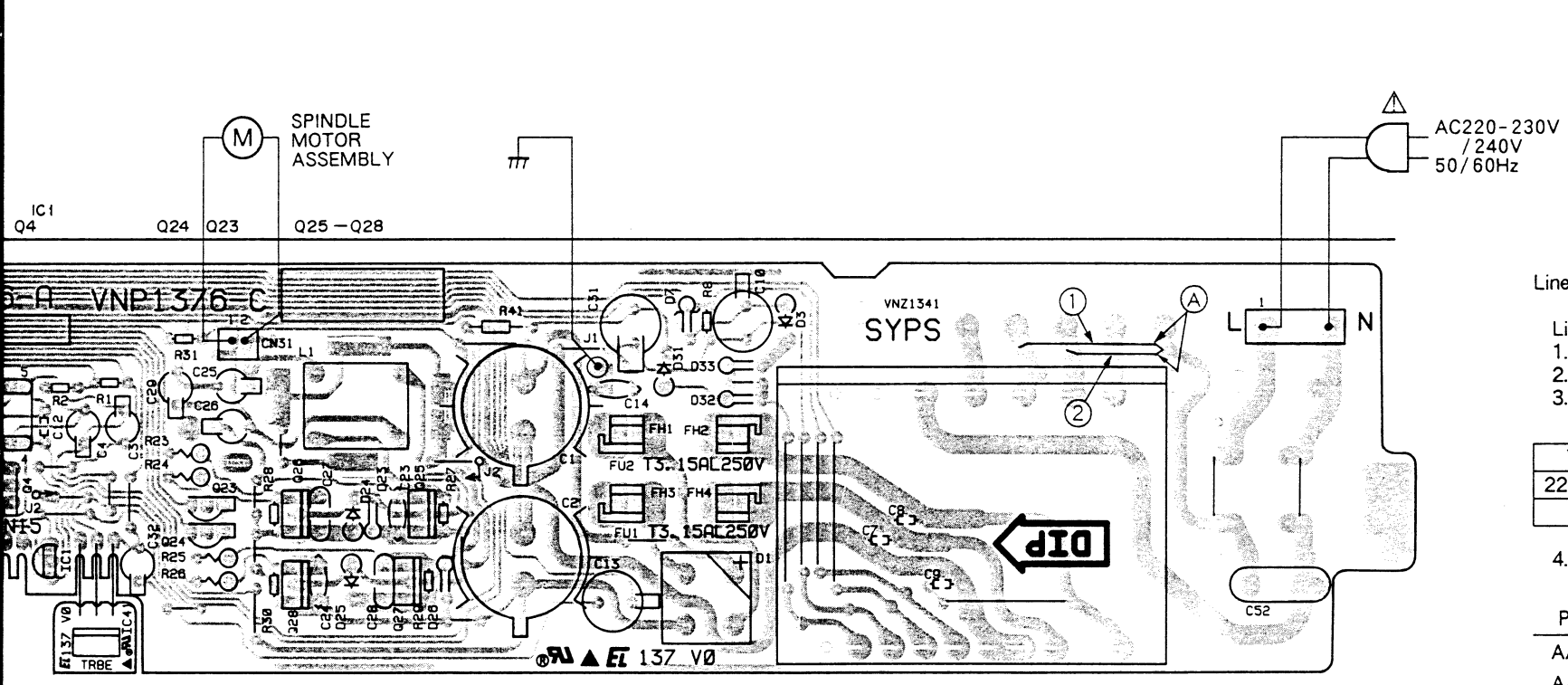
FLKY ASSEMBLY
S201 :LANGUAGE
S202 :RANDOM PLAY
S203 :HILITE/INTRO SCAN
S204 :CHP/TIME
S205 :PGM EDIT
S206 :SKIP(⏮)
S207 :SKIP(⏭)
S208 :1
S209 :2
S210 :3
S211 :4
S212 :6
S213 :7
S214 :8
S215 :9
S216 :0
S217 :5
S218 :PGM
S219 :+10
S220 :DIRECT CD (CD)
S221 :OPEN/CLOSE (⏏)
S222 :STOP (■)
S223 :PLAY/PAUSE (▶/II)
S225 :ROTARY ENCODER

P.C.B. pattern diagram indication	Corresponding part symbol	Part name	P.C.B. pattern diagram indication	Corresponding part symbol	Part name
		Transistor			Ceramic capacitor
		FET			Mylar capacitor
		Diode	SA		Styrol capacitor
			NP		Electrolytic capacitor (Non polarized)
			NL		Electrolytic capacitor (Noiseless)
		Zenner diode			Electrolytic capacitor (Polarized)
					Electrolytic capacitor (Polarized)
		LED			Power capacitor
		Varactor			Semi-fixed resistor
		Tact switch			Resistor array
					Resistor
		Inductor			
		Coil			Resonator
		Transformer			Thermistor
		Filter			

1. This P.C.B. connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the above Table.
3. The capacitor terminal marked with ▭ shows negative terminal.
4. The diode marked with ○ shows cathode side.
5. The transistor terminal marked with ▭ shows emitter.







Line voltage selection

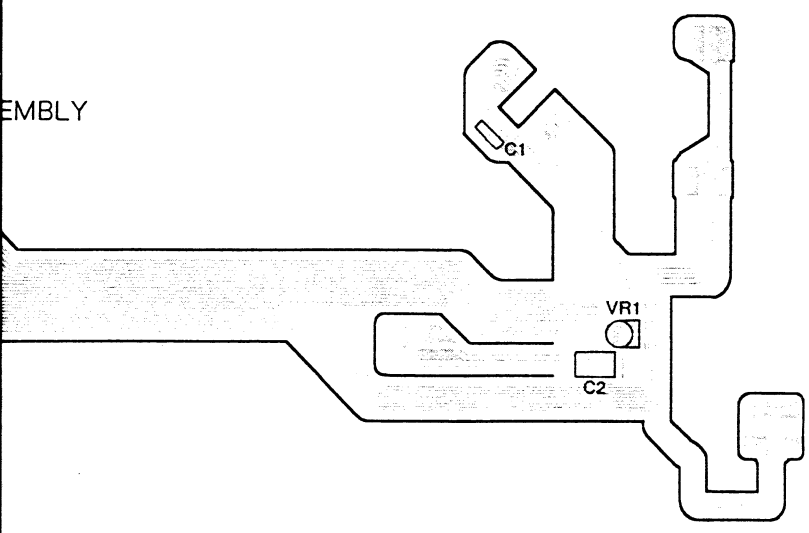
Line voltage can be changed as follows :

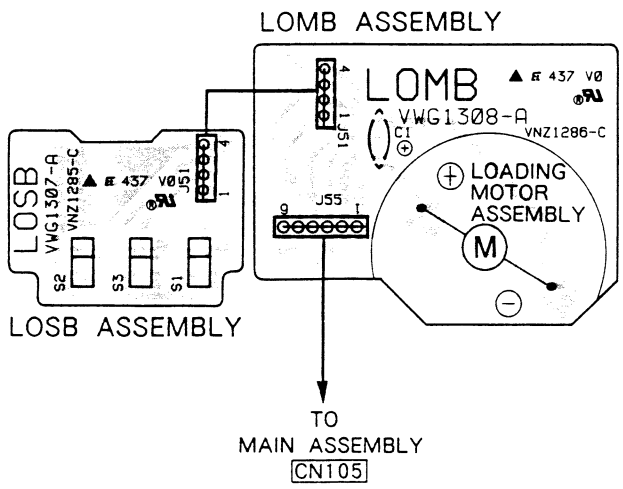
1. Disconnect the AC power cord.
2. Remove the cover.
3. Change the position of the jumper wire Ⓐ as follows.

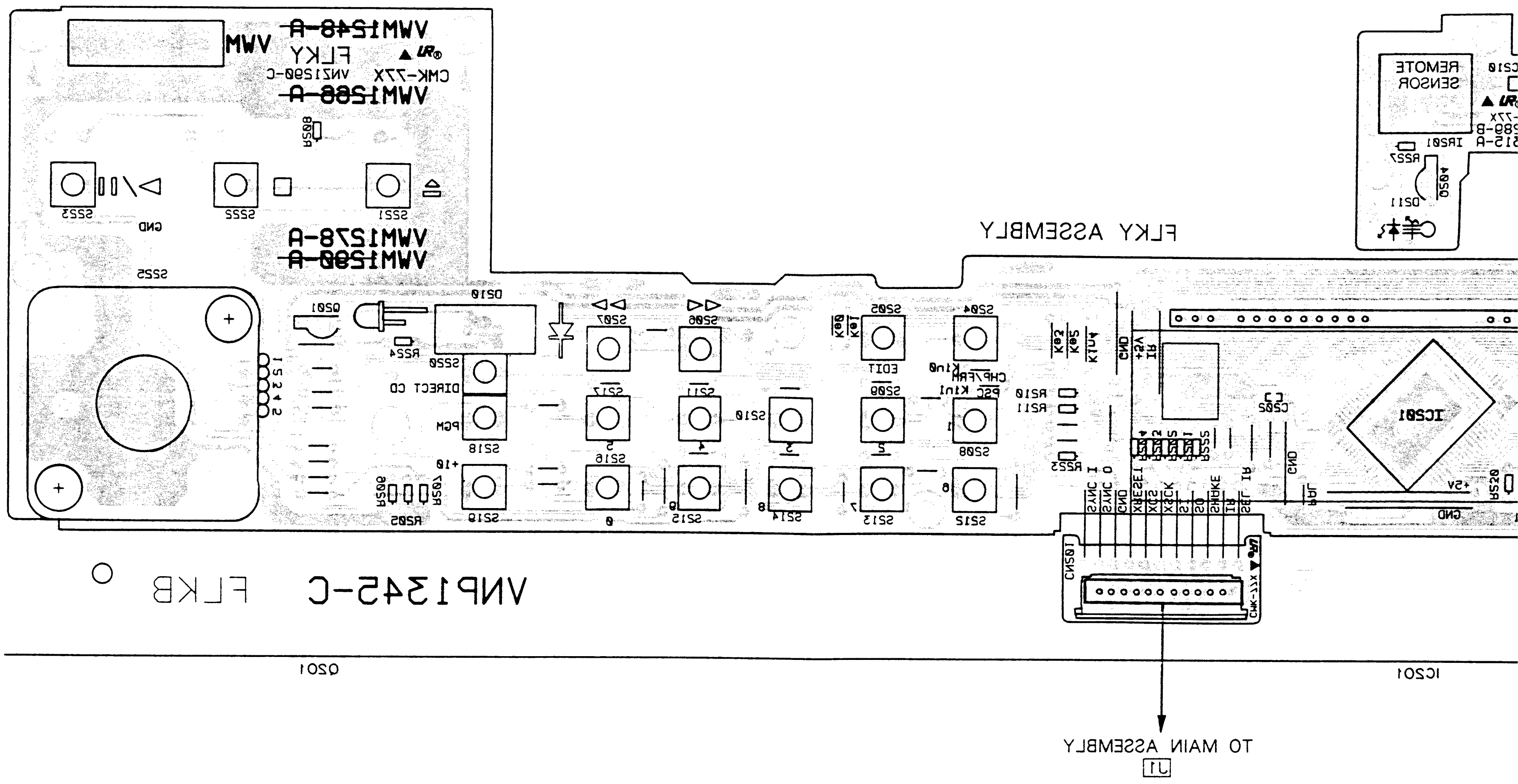
Voltage	jumper wire Ⓐ position
220V-230V	①
240V	②

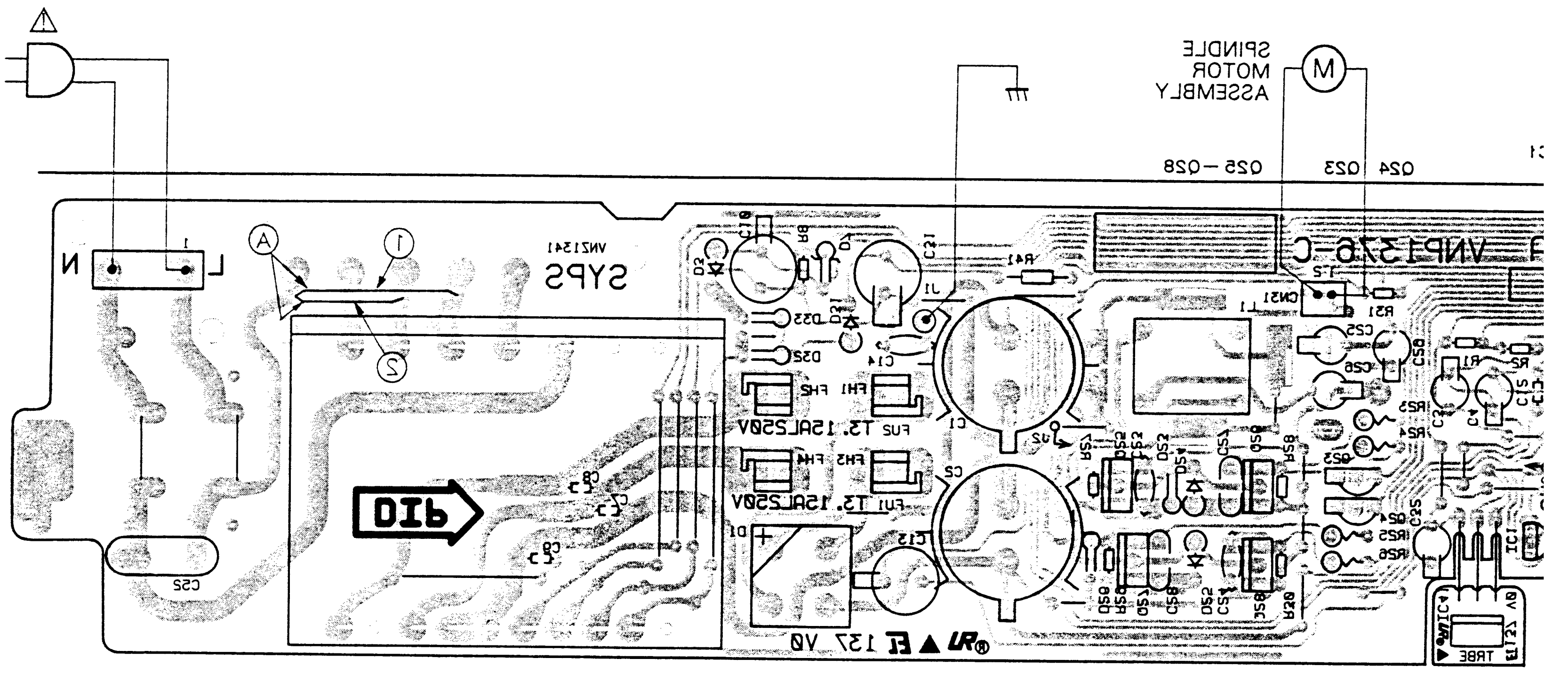
4. Stick the line voltage label on the rear panel.

Part No.	Description
AAX-193	220V label
AAX-192	240V label









Line voltage selection

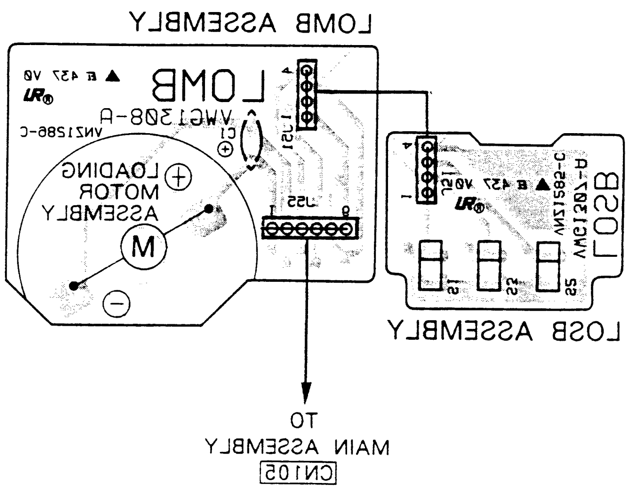
Line voltage can be changed as follows :

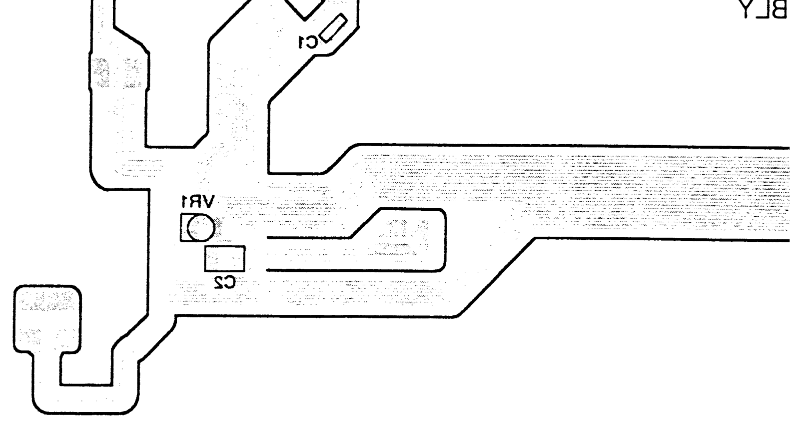
1. Disconnect the AC power cord.
2. Remove the cover.
3. Change the position of the jumper wire Ⓐ as follows.

Voltage	jumper wire Ⓐ position
220V - 230V	①
240V	②

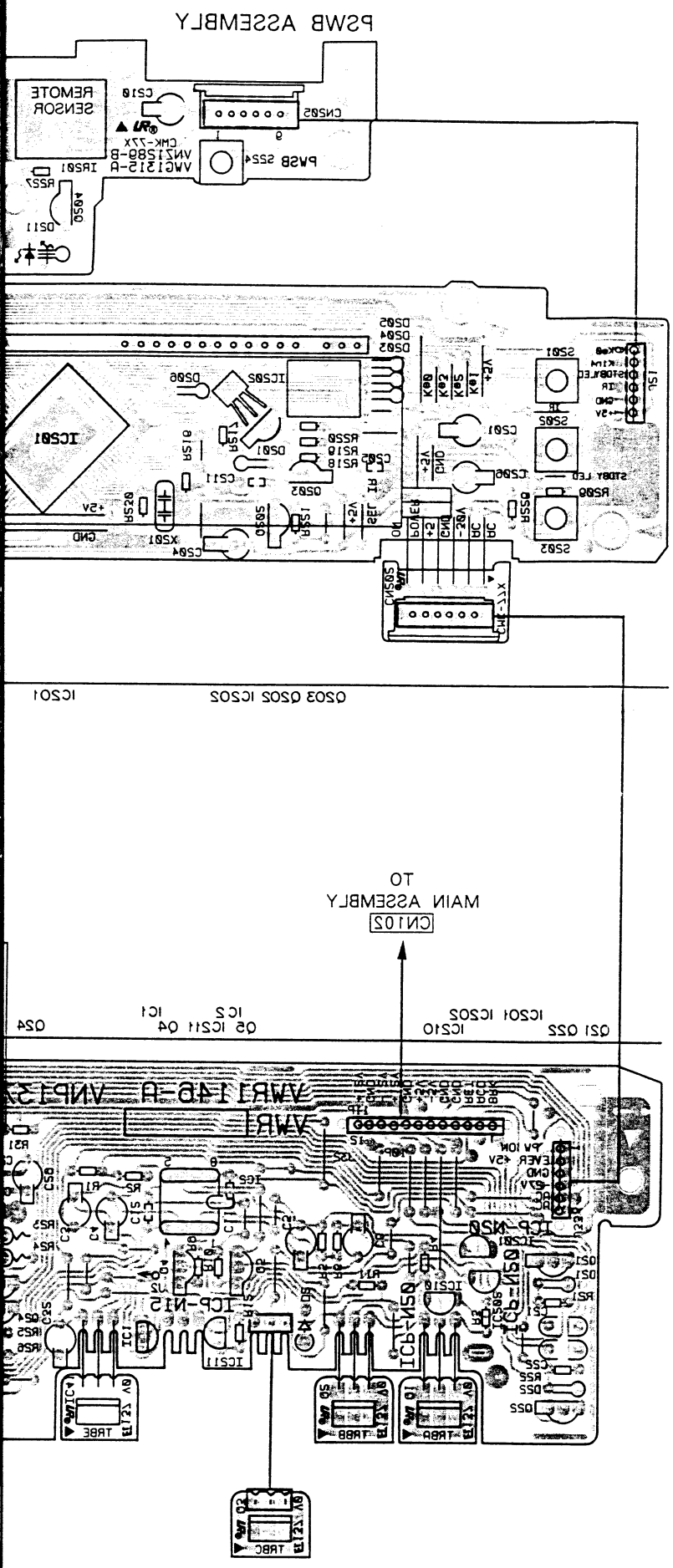
4. Stick the line voltage label on the rear panel.

Part No.	Description
AAX - 193	220V label
AAX - 192	240V label

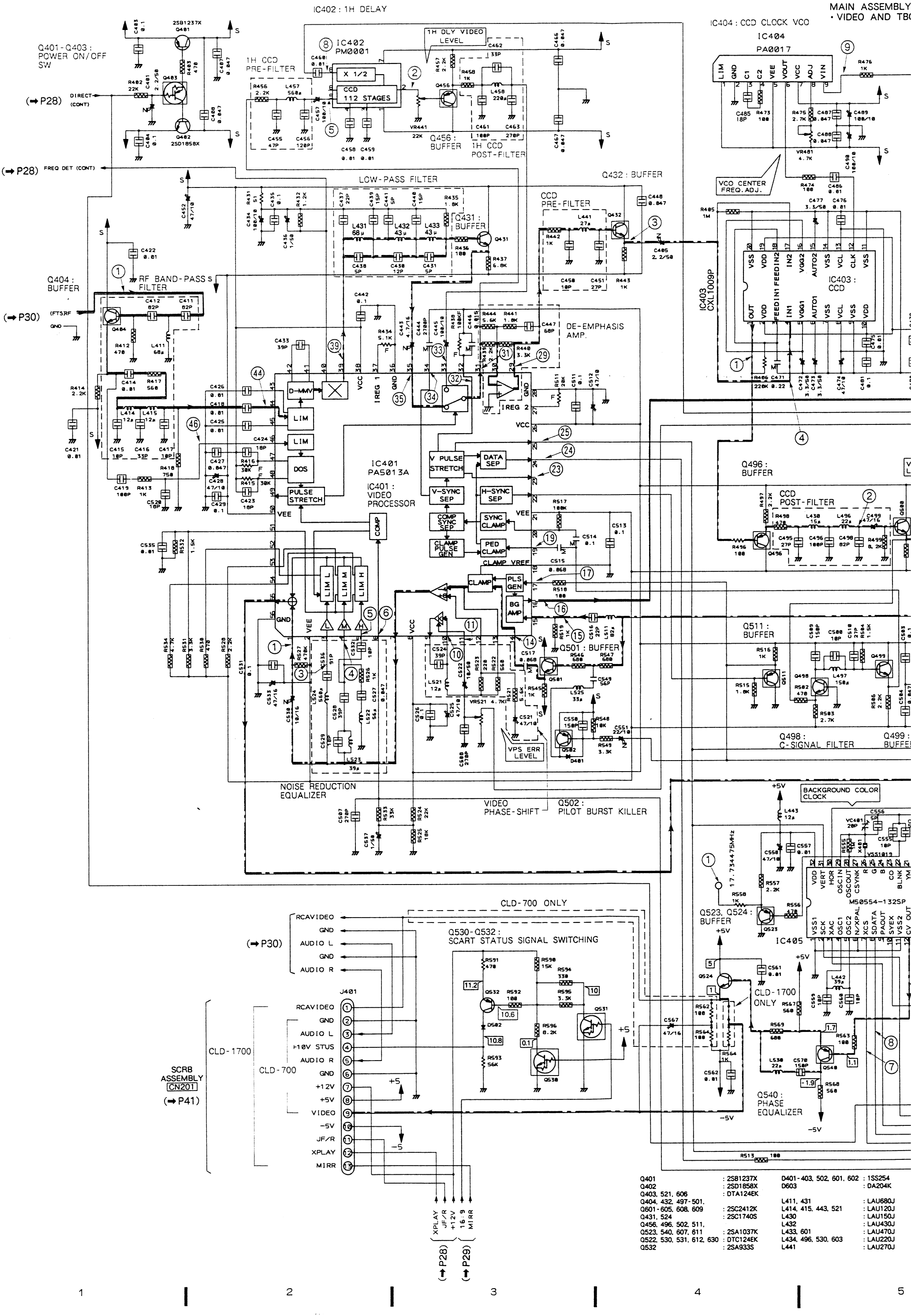




This P. C. B. connection diagram is viewed from the foil side.



3.2 MAIN ASSEMBLY (1/2)



Q401	: 2SB1237X	D401-403, 502, 601, 602	: 1SS254
Q402	: 2SD1858X	D603	: DA204K
Q403, 521, 606	: DTA124EK		
Q404, 432, 497-501,		L411, 431	: LAU680J
Q601-605, 608, 609	: 2SC2412K	L414, 415, 443, 521	: LAU120J
Q431, 524	: 2SC1740S	L430	: LAU150J
Q456, 496, 502, 511,		L432	: LAU430J
Q523, 540, 607, 611	: 2SA1037K	L433, 601	: LAU470J
Q522, 530, 531, 612, 630	: DTC124EK	L434, 496, 530, 603	: LAU220J
Q532	: 2SA933S	L441	: LAU270J

MAIN ASSEMBLY (1/2)
• VIDEO AND TBC SECTION

IC606 :
PILOT BURST LIMITER

IC606
TC7SU04F

IC604 (4/4) :
PHASE COMPARATOR

IC605 :
SW for
SAMPLE & HOLD

IC602 (1/2) :
BUFFER

IC602

IC604
(3/4)

(4/4)

TC4S66F

Q608,Q609 :
OSCILLATOR
START/STOP
CONTROL

Q609

Q608

Q607

(1/4)

(2/4)

IC604 (2/4), Q607 :
SAMPLE & HOLD
PLUS GEN.

IC604 (1/4) : BURST SIGNAL OSC

IC602 (2/2) :
CCD ERROR AMP

IC602

: RF Signal Line
: Video Signal Line
(S) : SPDL Servo Loop Line

Q602 :
TBC LOOP GAIN
SWITCHING

Q602

Q603, Q604 :
TRAPEZOID WAVEFORMER

Q603

Q604

Q601,Q605,Q606
TBC ERROR
DET.

Q606

Q601

Q605

D603
DA204K-T

TGH (➡P28)
VREF (➡P30)

IC403 :
CCD

VIDEO LEVEL

Q497, 500 :
BUFFER

Q497

Q500

Q630 :
RESET SIGNAL
WAVEFORMER

Q499 :
BUFFER

Q499

AL FILTER

CKGROUND COLOR
OCK

M50554-132SP

VSS1019

IC405 :
CHARACTER
GENERATOR

Q521 :
INVERTER

Q522 :
VIDEO
SQUELCH

Q522

Q521

D402

D403

LOGIC BLOCK

SYNC SIGNAL
GEN

REF H GEN
REF SC GEN
PBH TIMING GEN
LOCK DETECTOR

PFC

IC601 :
TBC SERVO &
SYNC GEN.
IC601
PM3002

SPINDLE
DRIVE
LOGIC

SERIAL–
PARALEL
DECORDER

CCD &
SPDL
EQUALIZER

SPDL
INTERFACE

Q612 :
LD/CD SW

Q612

Q611 :
LOOP GAIN SW

Q611

TBC REF. OSC

VC901

X601
VSS1053
14.22MHz

502, 601, 602	: 1SS254	L442, 523	: LAU390J
	: DA204K	L457, 524	: LFA561J
		L458	: LFA221J
	: LAU680J	L497	: LAU151J
443, 521	: LAU120J	L511	: LAU820J
	: LAU150J	L522	: LAU560J
	: LAU430J	L525	: LAU330J
	: LAU470J	VC401, 901	: VCM-008
530, 603	: LAU220J	VR441	: VRT6VS223
	: LAU270J	VR481, 482, 521	: VRT6VS472

(➡P28) CAV/CLV (OSC INH, HIZ) DATA XPB V XCS SIN1 SCK1 XSLOCK VSQ BRAKE ACCELL XPBHD XLATCH3 SO3 SCK3 J.TRIG SCAN CONT XRESET (➡P29) (➡P28) (➡P29) (➡P28)

3.3 MAIN ASSEMBLY (2/2) AND AUDIO ASSEMBLY

MAIN ASSEMBLY (2/2)
• FTS SECTION

AUDIO ASSEMBLY

CLD-1700 ONLY

CLD-700 ONLY (➡P27)

+12V (1700)

+5V (700)

SYPS ASSEMBLY J32 (➡P18)

BRAKE
ACCELL
RETURN
M GND
R GND
-5V
+5V
GND
+12V
-12V
GND (A)
+12V

CN102

CLD-700 ONLY

-5V (700)

(➡P25) +12V

-12V (1700)

DIRECT
FREQ DET
CAV/XCLV (➡P26)
XRESET (➡P27)

XCS (➡P26)
SI1
SCK1
TGH (➡P27)

FLKY ASSEMBLY CN201 (➡P17)

IR
SHAKE
S-FTOM
S-MTOF
XSCK1
XCS
XRESET
GND
SEL IR
SYNCRO OUT
SYNCRO IN

CLD-700 ONLY

PKN1005
CD • DECK SYNCHRO

Q101 : INVERTER BUFFER

CONTROL
OUT
PKN1004
IN
PKN1004

CLD-1700 ONLY

IC101
PD0135A1

IC101 :
MECHANISM CONTROL CPU

VCC
DIRECT
NC
LD ON
TGH
SLD POS
FREQ DET
TBAL ERR
TILT ERR
CAV
GFS
TBAL DRV
SQ1
SQ2
SI2
XLAT2
SCK2
TILT DRV
SI1
SO1
SCK1
SENS
SCOR
NC
SHAKE
XPBV
CN VSS
XRESET
XIN
XOUT
NC
VSS

64 XSLOCK
63 NC
62 XPLAY
61 VSQ
60 J F/R
59 XLATCH3
58 SO3
57 SCK3
56 J.TRIG
55 GPWM
54 ACCONT
53 CD
52 SCAN CONT
51 RF CORR
50 2500CLK
49 NC
48 NC
47 NC
46 T LATCH
45 16:9
44 MUTE
43 NC
42 NC
41 MIRR
40 XPBV
39 XPBH
38 DATA
37 FG
36 NC
35 SW3
34 SW2
33 SW1

TEST MODE

IC803 (1/2) : TILT ERROR AMP

TRKG C
TRKG A
RF
FCS DRV
TRKG DRV
FCS ERR
FCS IN
GND
TRKG ERR
TRKG IN
FCS SUM

CN120

IC803 NJM072L
TILT GAIN
TILT OFFSET

T LED
TILT IN
TILT GND
TILT OUT
T DRV
F DRV
R GND
R GND
LD G
LD G
LD
MD
VR
B1
B2
B3
B4
A
C
GND
RF
+5V
-5V

CAMB ASSEMBLY CN403 (➡P17)

CN103 HLEM23S-1

Q809 : LD POWER SUPPLY

Q810 : LD EFM MUTE

Q811 : CD RF MUTE

IC804 BA15218N

IC804 (1/2), Q812, Q813 : FOCUS SUM AMP

IC805 BA10393F

Q814 : MIRR COMPARATOR

Q808 : INVERTER BUFFER

IC801 : TRACKING ERROR WAVEFORMER & RF AMP

IC801 CXA1081S

IC807 (2/2) : LOAD/TILT DRIVE

Q911 : TRACKING GAIN SWITCHING

IC803 (2/2), Q904, Q905 : AUTOMATIC TRACKING BALANCE ERROR WAVEFOMER

IC806 (1/2) : TRKG DRIVE

Q909 : POWER ON MUTE

IC806 (2/2), Q908 : FOCUS DRIVE

Q901 - Q903 : TRKG ERR. MIX/RF MIX VR SWITCHING

IC804 (2/2) : FOCUS ERR. AMP

Q801, Q802 : RF BUFFER

Q803 : RF AM

Q804 : RF CORREC

Q805 RF B

Q613 - Q615 : FG SIGNAL WAVEFORMER

Q912,Q913 MIRR KILL

Q101, 615, 901, 902, 911, Q912 : DTC124EK
Q613, 614, 802, 812, 909, Q917 : 2SA1037K
Q801, 803-805, 807, 811, Q813, 915, 918 : 2SC2412K
Q808, 810, 814, 903, 913 : DTA124EK
Q809 : 2SA1399
Q908 : 2SK184

D101, 801-803, 806, 807 : 1SS254
D102, 103 : 1SS254
D805 : 1SR35-100AVL
D810, 811 : DA204K
L801 : LAU100J
L802, 804 : LAU151J
L803 : LAU181J
VR601 : VRT86VS222
VR603, 604, 607 : VRT86VS473
VR605, 606 : VRT86VS333

CLD-1700 ONLY

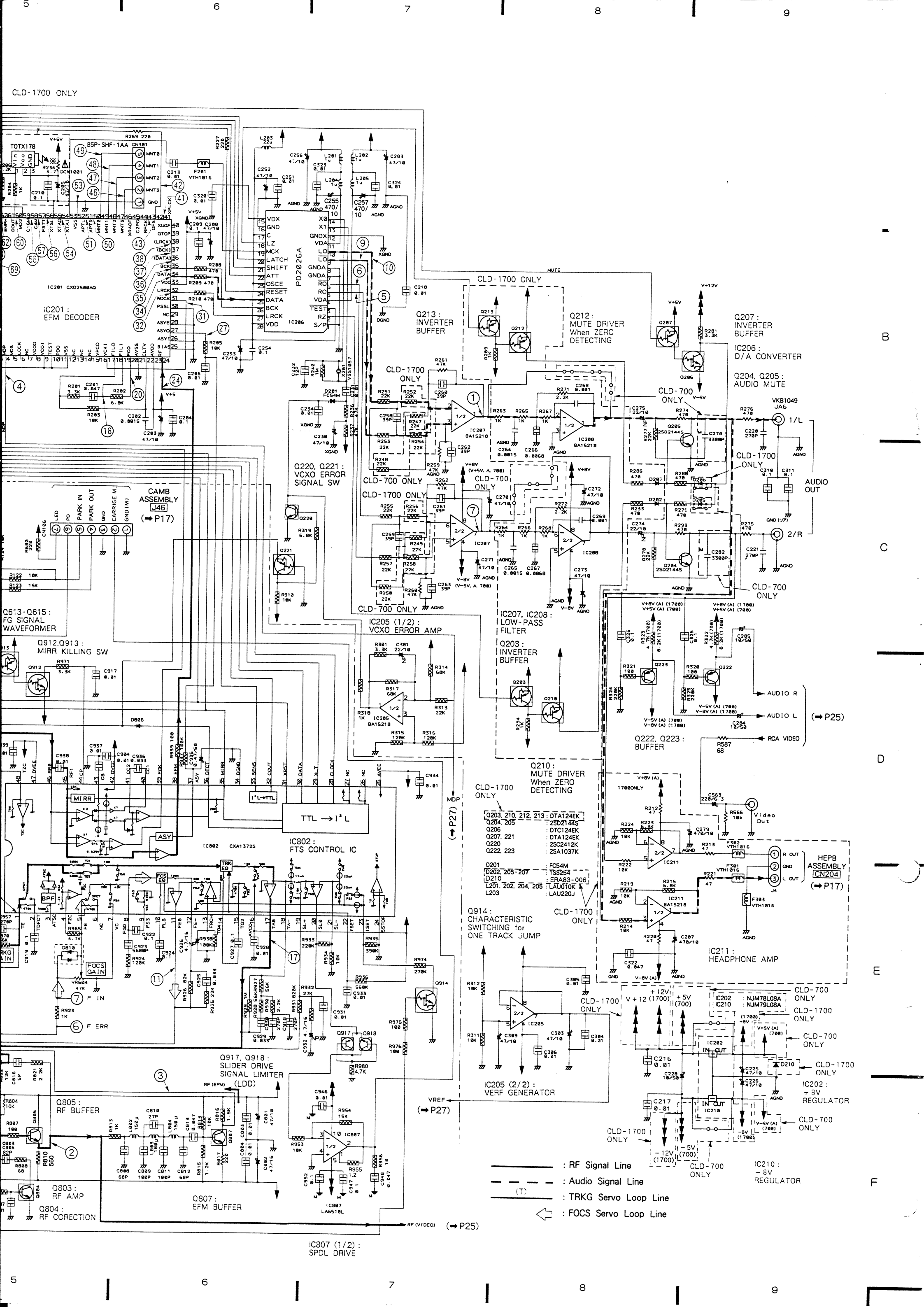
D1031 (➡P16)
LOMB ASSEMBLY J55

CN105 SW1 SW2 SW3 GND LOADING M. GND (M)

※ C123 VCG1022 10000P*4

TOTX178

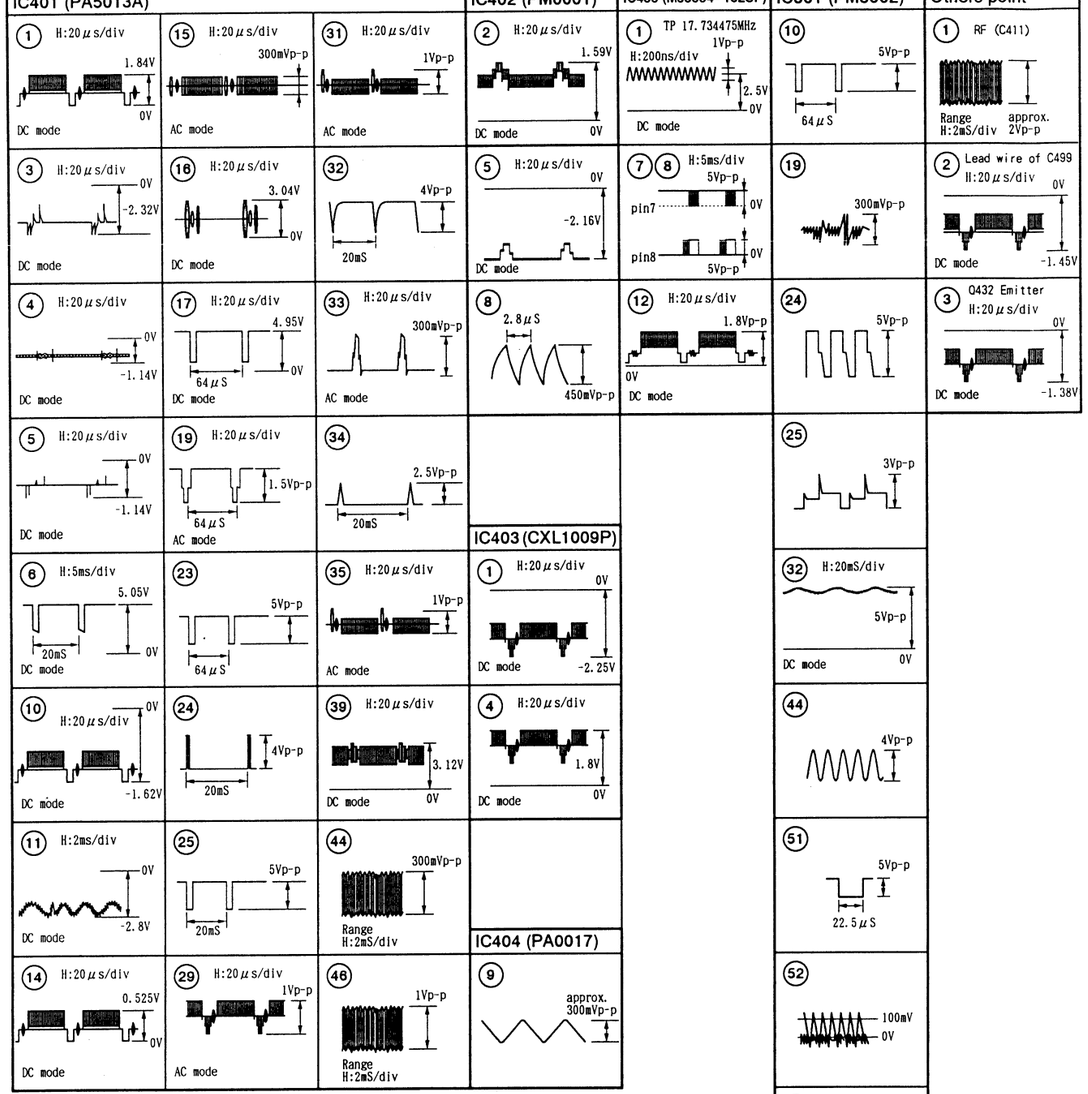
IC201 : EFM DEC


CLD-1700 ONLY
IC201 : EFM DECODER
IC201 CXD2500AQ
IC206 PD2026A
Q213 : INVERTER BUFFER
Q212 : MUTE DRIVER When ZERO DETECTING
Q207 : INVERTER BUFFER
IC206 : D/A CONVERTER
Q204, Q205 : AUDIO MUTE
Q220, Q221 : VCXO ERROR SIGNAL SW
CAMB ASSEMBLY J46 (➡P17)
Q613-Q615 : FG SIGNAL WAVEFORMER
Q912,Q913 : MIRR KILLING SW
IC205 (1/2) : VCXO ERROR AMP
IC207, IC208 : LOW-PASS FILTER
Q203 : INVERTER BUFFER
Q210 : MUTE DRIVER When ZERO DETECTING
Q222, Q223 : BUFFER
AUDIO OUT
AUDIO R
AUDIO L
RCA VIDEO
(➡P25)
IC802 : FTS CONTROL IC
IC211 : HEADPHONE AMP
IC202 : +8V REGULATOR
IC210 : −8V REGULATOR
HEPB ASSEMBLY CN204 (➡P17)
Video Out
Q914 : CHARACTERISTIC SWITCHING for ONE TRACK JUMP
IC205 (2/2) : VERF GENERATOR
Q917, Q918 : SLIDER DRIVE SIGNAL LIMITER
Q805 : RF BUFFER
Q803 : RF AMP
Q804 : RF CORRECTION
Q807 : EFM BUFFER
IC807 (1/2) : SPDL DRIVE
IC807 LA6510L
(➡P27)
VREF (➡P27)
RF (VIDEO) (➡P25)
Q203, 210, 212, 213 : DTA124EK
Q204, 205 : 2SD2144S
Q206 : DTC124EK
Q207, 221 : DTA124EK
Q220 : 2SC2412K
Q222, 223 : 2SA1037K
D201 : FC54M
D202, 205-207 : 1SS254
D210 : ERA83-006
L201, 202, 204, 205 : LAU010K
L203 : LAU220J
: RF Signal Line
: Audio Signal Line
: TRKG Servo Loop Line
: FOCS Servo Loop Line

WAVEFORMS AND VOLTAGES
VIDEO AND TBC SECTION

Note: (No.) in the table correspond to the pin number.

IC401 (PA5013A)


① H:20μs/div 1.84V 0V DC mode
⑮ H:20μs/div 300mVp-p AC mode
㉛ H:20μs/div 1Vp-p AC mode
③ H:20μs/div 0V -2.32V DC mode
⑯ H:20μs/div 3.04V 0V DC mode
㉜ 4Vp-p 20mS
④ H:20μs/div 0V -1.14V DC mode
⑰ H:20μs/div 4.95V 64μS 0V DC mode
㉝ H:20μs/div 300mVp-p AC mode
⑤ H:20μs/div 0V -1.14V DC mode
⑲ H:20μs/div 1.5Vp-p 64μS AC mode
㉞ 2.5Vp-p 20mS
⑥ H:5ms/div 5.05V 20mS 0V DC mode
㉓ 5Vp-p 64μS
㉟ H:20μs/div 1Vp-p AC mode
⑩ H:20μs/div 0V -1.62V DC mode
㉔ 4Vp-p 20mS
㊴ H:20μs/div 3.12V DC mode 0V
⑪ H:2ms/div 0V -2.8V DC mode
㉕ 5Vp-p 20mS
㊹ 300mVp-p Range H:2mS/div
⑭ H:20μs/div 0.525V 0V DC mode
㉙ H:20μs/div 1Vp-p AC mode
㊻ 1Vp-p Range H:2mS/div

IC402 (PM0001)

IC403 (CXL1009P)

IC404 (PA0017)

IC405 (M50554-132SP)

IC601 (PM3002)

Others point

Note : Waveforms and voltages are at the PLAY mode.

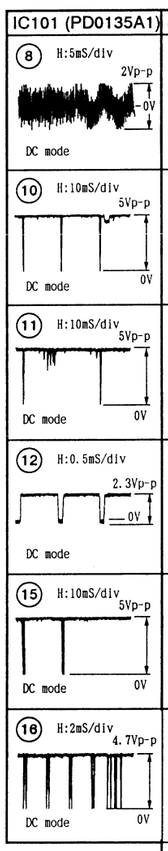
IC405 (M50554-132SP)

Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage
1	0	9	–	17	0.8	25	–
2	5	10	5	18	–	26	–
3	5	11	0	19	0	27	–
4	2.4	12	1.1	20	0	28	2.3
5	2.4	13	1.1	21	–	29	2.3
6	0	14	–	22	–	30	–
7	5	15	1.8	23	–	31	4.8
8	0.4	16	0.6	24	–	32	–

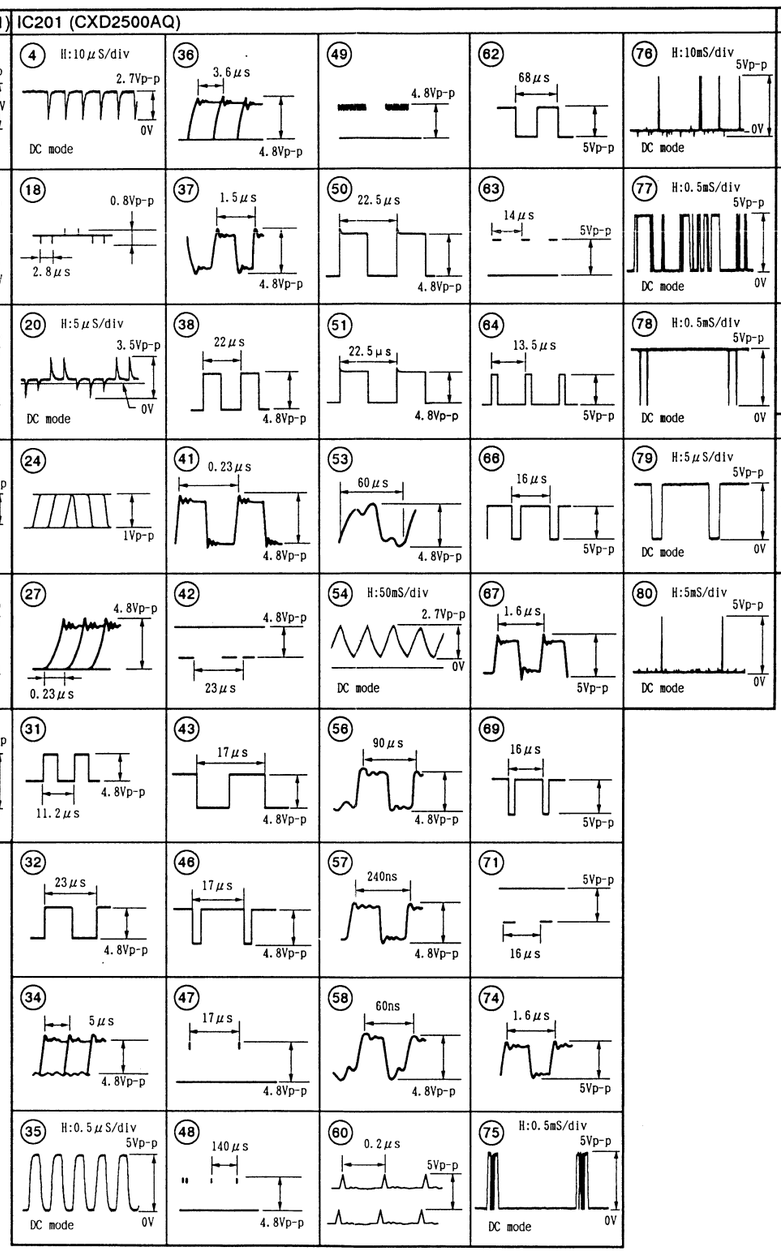
FTS AND AUDIO SECTION

Note: (No.) in the table correspond to the pin number.

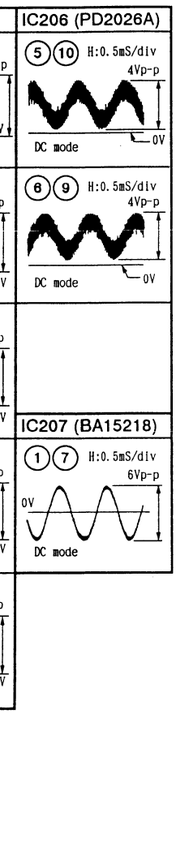
IC101 (PD0135A1)


⑧ H:5mS/div 2Vp-p 0V DC mode
⑩ H:10mS/div 5Vp-p DC mode 0V
⑪ H:10mS/div 5Vp-p DC mode 0V
⑫ H:0.5mS/div 2.3Vp-p 0V DC mode
⑮ H:10mS/div 5Vp-p DC mode 0V
⑯ H:2mS/div 4.7Vp-p DC mode 0V

IC201 (CXD2500AQ)



IC206 (PD2026A)



IC207 (BA15218)

Note: (No.) in the table correspond to the pin number.

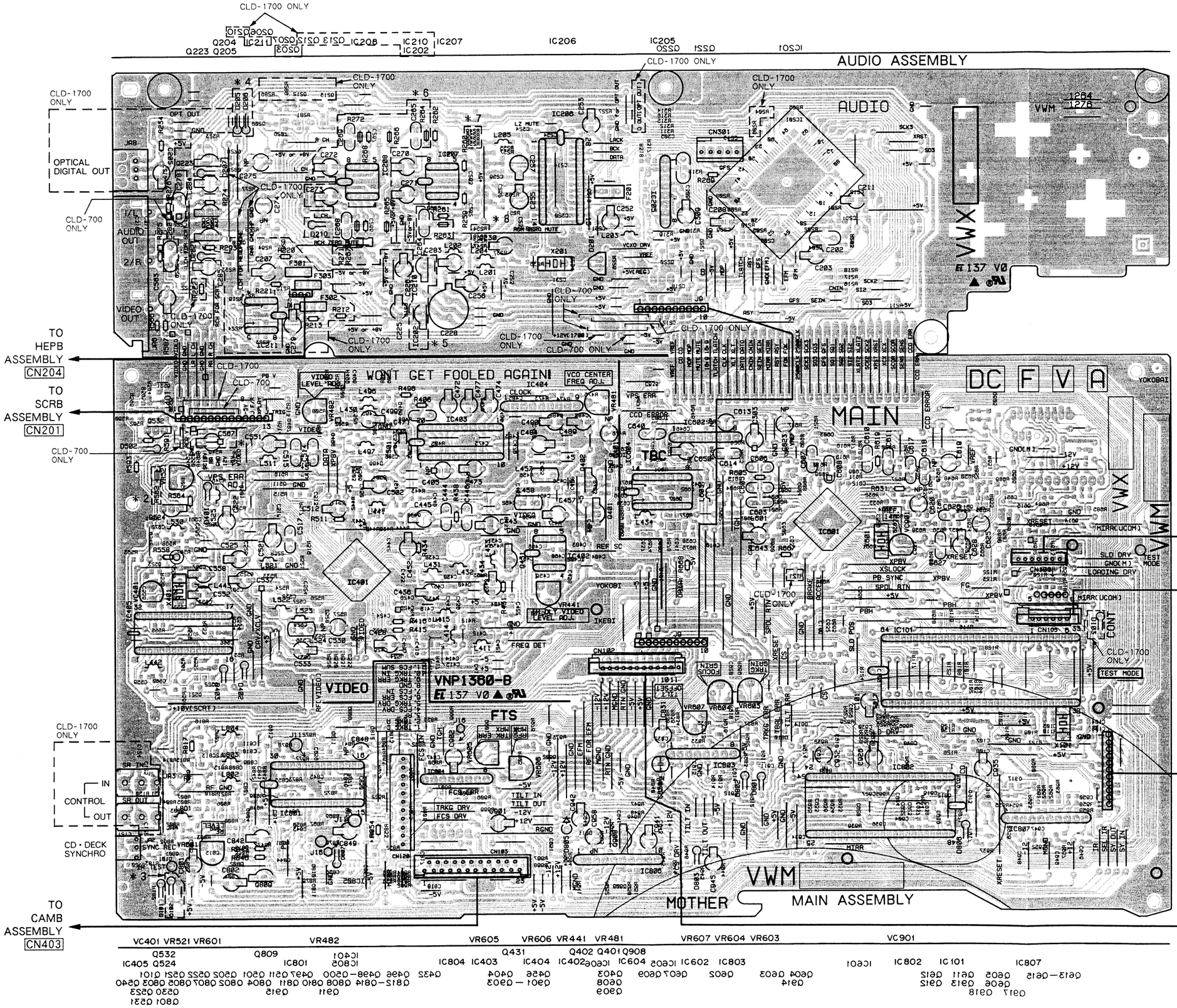
IC801 (CXA1081S)	IC802 (CXA1372S)	CN120	Others Point
(2) H:10mS/div 1.7Vp-p AC mode	(1) H:10mS/div 50mVp-p 0V DC mode	(1) H:10mS/div 130mVp-p AC mode	(1) Q615 Collector H:1mS/div 5Vp-p 0V DC mode
(7) H:5mS/div 50mVp-p 0V DC mode	(11) H:1mS/div 1.2Vp-p DC mode 0V	(2) H:10mS/div 130mVp-p AC mode	(2) Q805 Emitter H:5mS/div 2Vp-p 0V DC mode
(8) H:10mS/div 40mVp-p 0V DC mode	(17) H:1mS/div 0V DC mode 2.5Vp-p	(3) H:5mS/div 330mVp-p AC mode	(3) Q807 Collector H:5mS/div 1Vp-p 0V DC mode
(12) H:10mS/div 200mVp-p AC mode		(4) H:10mS/div 7.5Vp-p AC mode	
(20) H:10mS/div 0.35Vp-p 0V DC mode		(5) H:10mS/div 13.6Vp-p AC mode	
		(6) H:10mS/div 2.3Vp-p AC mode	
		(7) H:10mS/div 2.3Vp-p AC mode	
		(9) H:10mS/div 1.3Vp-p AC mode	
		(10) H:10mS/div 1.3Vp-p AC mode	
		(11) H:10mS/div 1Vp-p AC mode	

Note : Waveforms and voltages are at the PLAY mode.

IC201 (CXD2500AQ)

Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage
1	4.8	17	0	33	4.8	49	*	65	0
2	0	18	*	34	*	50	*	66	*
3	0	19	2.4	35	*	51	*	67	*
4	*	20	*	36	*	52	0	68	0
5	0	21	0	37	*	53	*	69	*
6	4.8	22	2.3	38	*	54	*	70	5
7	—	23	4.8	39	0	55	0	71	*
8	4.8	24	*	40	4.8	56	*	72	5
9	0	25	0	41	*	57	*	73	5
10	0	26	0	42	*	58	*	74	*
11	0	27	*	43	*	59	5	75	*
12	0	28	0	44	0	60	*	76	*
13	0	29	0	45	4.8	61	5	77	*
14	0	30	0	46	*	62	*	78	*
15	0	31	*	47	*	63	*	79	*
16	4.8	32	*	48	*	64	*	80	*

* : Refer to waveform



* 1

CLD-1700	C567
CLD-700	JUMPER

* 2

CLD-1700	JUMPER
CLD-700	R562

* 3

	D102	JUMPER
CLD-1700	USED	OPEN
CLD-700	OPEN	USED

* 4

CLD-1700	D205, 206
CLD-700	JUMPER

* 5

	IC202, 210	JUMPER
CLD-1700	USED	OPEN
CLD-700	OPEN	USED

* 6

CLD-1700	R263-266, 271, 272	OTHER PARTS
CLD-700	JUMPER	OPEN

* 7

CLD-1700	R256, 258	OPEN
CLD-700	OPEN	R249, 250

* 8

CLD-1700	R252, 254	OPEN
CLD-700	OPEN	R247, 248

This P. C. B. connection diagram is viewed from the foil side.

CLD-1700 ONLY

IC201 Q221 IC205 Q220 IC206 IC207 IC210 IC202 IC208 Q213 Q212 Q207 Q203 Q206 Q210 IC211 Q204 Q223 Q205

*1

CLD-1700	C567
CLD-700	JUMPER

*2

CLD-1700	JUMPER
CLD-700	R562

*3

	D102	JUMPER
CLD-1700	USED	OPEN
CLD-700	OPEN	USED

*4

CLD-1700	D205, 206
CLD-700	JUMPER

*5

	IC202, 210	JUMPER
CLD-1700	USED	OPEN
CLD-700	OPEN	USED

*6

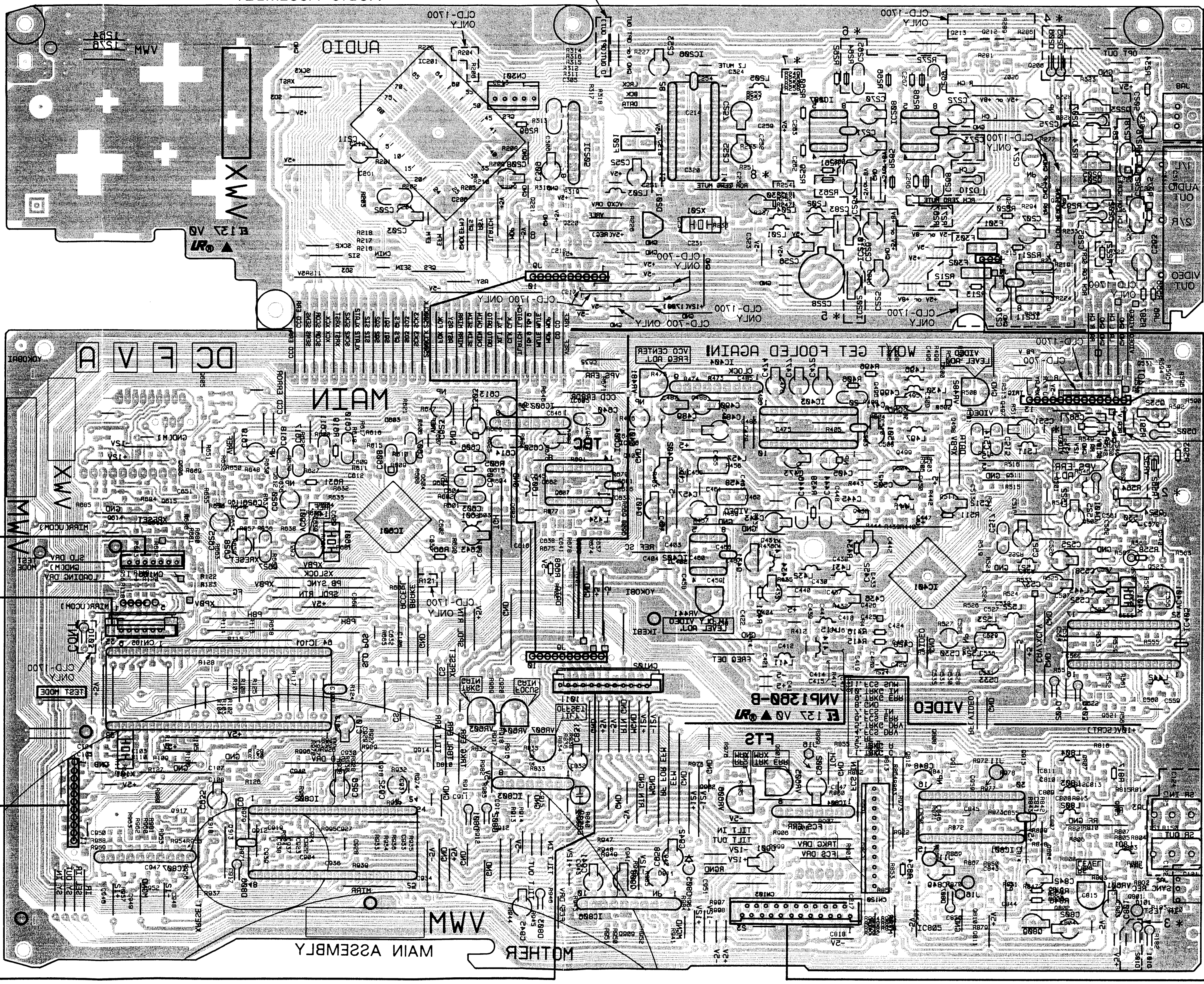
CLD-1700	R263-266, 271, 272	OTHER PARTS
CLD-700	JUMPER	OPEN

*7

CLD-1700	R256, 258	OPEN
CLD-700	OPEN	R249, 250

*8

CLD-1700	R252, 254	OPEN
CLD-700	OPEN	R247, 248



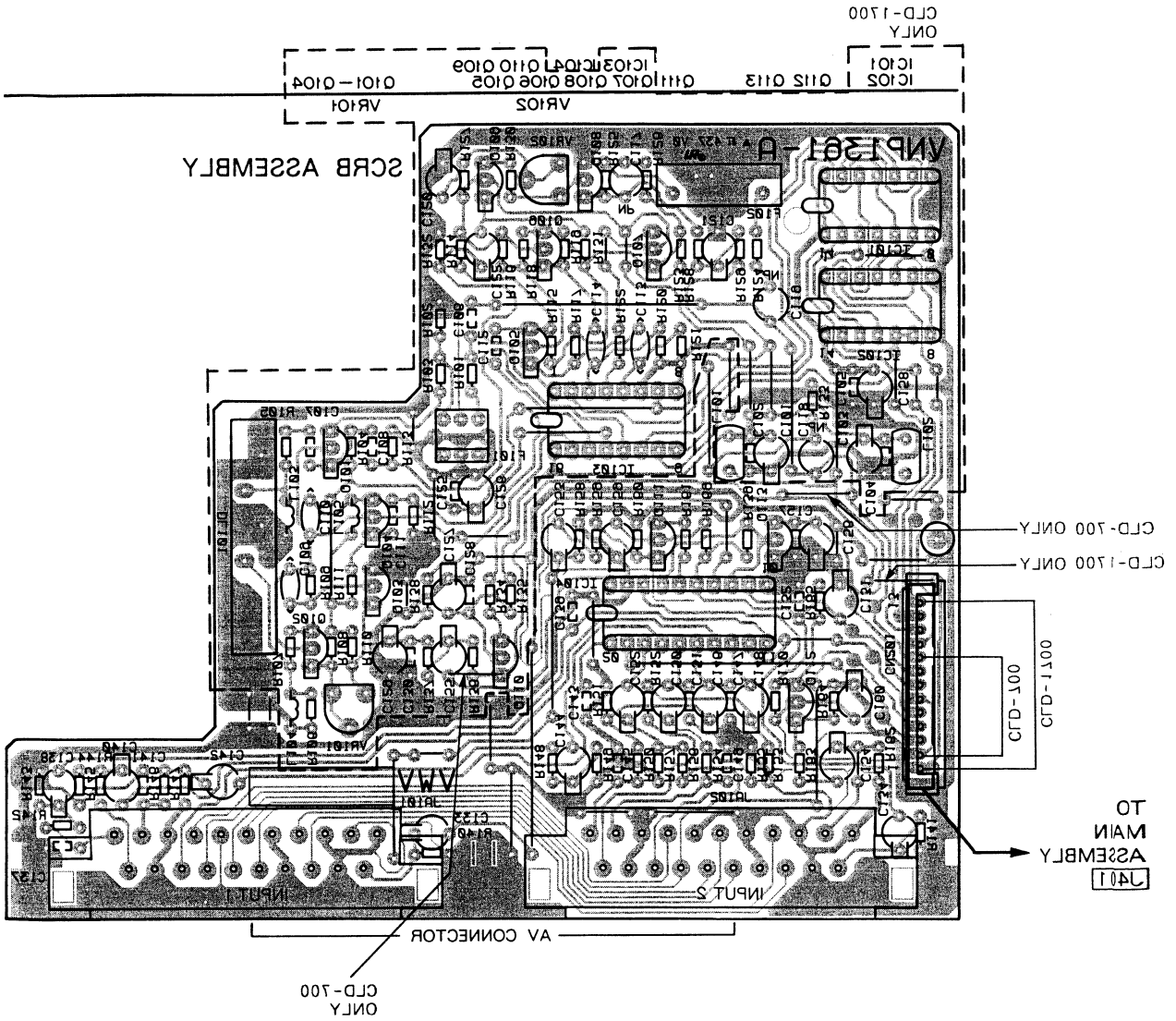
VC901 VR607 VR604 VR603 VR481 VR441 VR606 VR605 VR482 VC401 VR521 VR601

IC807 IC101 IC802 IC601 IC803 IC602 IC605 IC604 Q402 Q401 Q908 IC606 IC402 Q431 IC404 IC403 IC804 IC401 IC805 IC801 Q809 Q532 IC405 Q524

Q613—Q615 Q605 Q606 Q611 Q913 Q612 Q912 Q917 Q918 Q604 Q603 Q914 Q602 Q607 Q609 Q403 Q608 Q909 Q456 Q901—Q903 Q404 Q432 Q496 Q812—Q814 Q498—Q500 Q808 Q810 Q911 Q497 Q811 Q511 Q915 Q501 Q804 Q502 Q802 Q522 Q807 Q521 Q805 Q530 Q801 Q101 Q803 Q523 Q531 Q540

3.4 SCRB ASSEMBLY

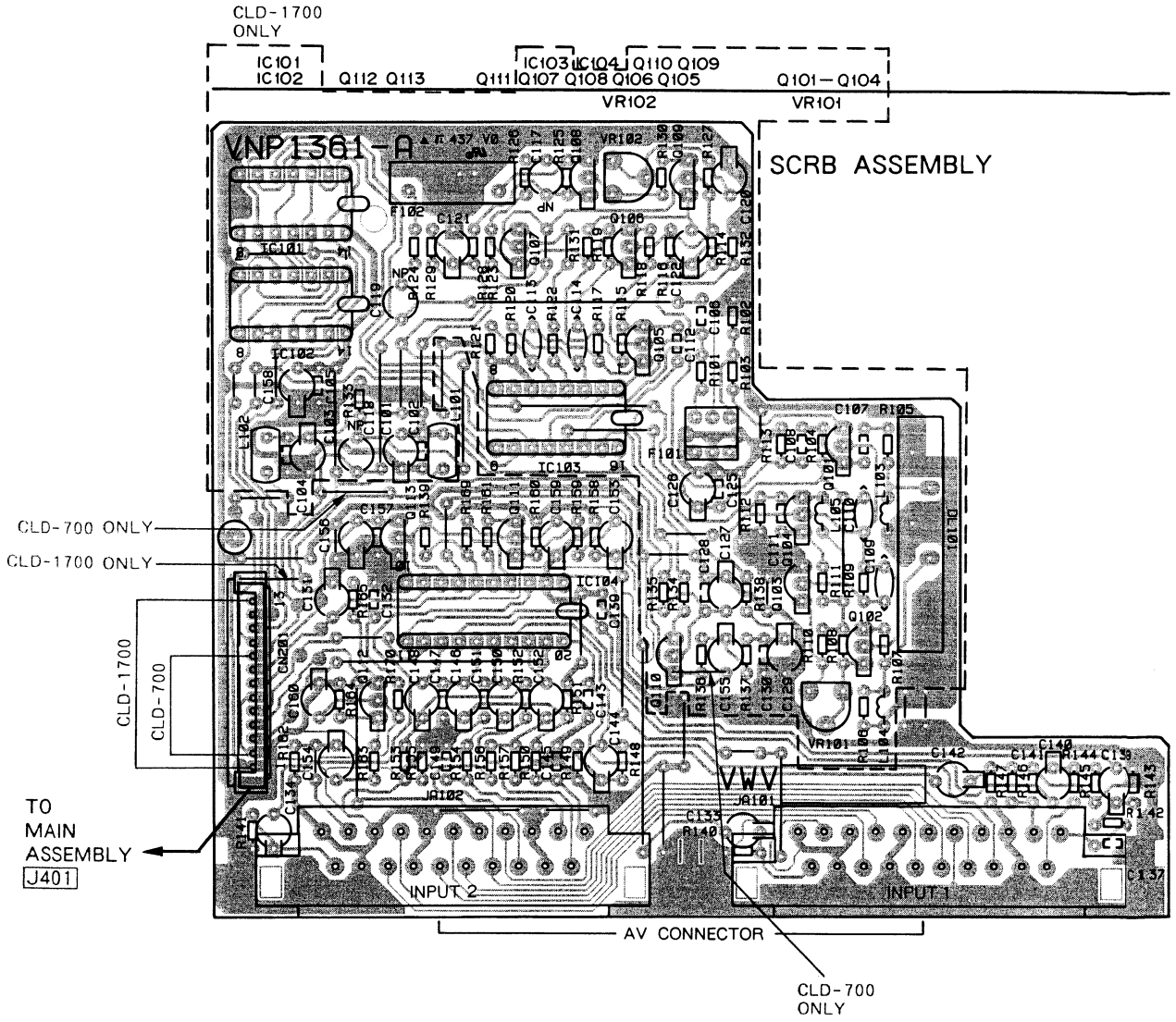
This P. C. B. connection diagram is viewed from the foil side.



SCRB ASSEMBLY

Note : (No.) in the table correspond to the pin number.

IC103 (BU4053B)		Others Point	
(3) (5) H:5ms/div 320mVp-p pin3 0V pin5 0V DC mode 280mVp-p	(12) (13) H:5ms/div 280mVp-p pin12 0V pin13 0V DC mode 450mVp-p	(8) Q109 Emitter 1.4Vp-p 0V DC mode H:20μs/div	(7) Q101 Emitter H:20μs/div 0V 280Vp-p DC mode



SCRB ASSEMBLY

Note : (No.) in the table correspond to the pin number.

IC103 (BU4053B)		Others Point	
(3) (5) H:5mS/div 320mVp-p pin3 0V pin5 0V DC mode 280mVp-p	(12) (13) H:5mS/div 280mVp-p pin12 0V pin13 0V DC mode 450mVp-p	(6) Q109 Emitter 1.4Vp-p 0V DC mode H:20μS/div	(7) Q101 Emitter H:20μS/div 0V 280Vp-p DC mode

SCRB ASSEMBLY (VWV1248 : CLD-1700) (VWV1255 : CLD-700)

JA101 VKB1037

JA102 VKB1037

R OUT, R IN, L OUT, AUDIO GND, BLUE GND, L IN, BLUE, +10 STUS, GREEN GND, GREEN, RED GND, RED, V OUT, V IN

INPUT 1

INPUT 2

AV CONNECTOR

CN201: RCA VIDEO, GND, AUDIO L, +10 STUS, AUDIO R, GND, +12V, +5V, VIDEO, -5V, J F/R, X PLAY, MIRR

CLD-700

CLD-1700

MAIN ASSEMBLY J401 (→P25)

CLD-700 ONLY

Q111, Q112 : 75Ω DRIVER

IC104 : AUDIO & VIDEO SIGNAL SWITCHING

IC101, IC102 : TIMING GENERATOR

Q101 : C-SIGNAL BUFFER

C-SIGNAL AMP

Q108, Q109 : Y/C MIX AMP

Q105 : INVERTER AMP & BUFFER

Q106 : BUFFER

Q107 : BUFFER

Q110 : VOLTAGE DEVIDING BUFFER

Q113 : CONTROL SIGNAL SW

IC104
• Truth table

CONTROL 1 PIN4	CONTROL 2 PIN8	MUTE IN PIN10	VIDEO OUT 1	VIDEO OUT 2	AUDIO OUT 1	AUDIO OUT 2
L	L	L	IN1	IN1	IN1	IN1
L	H	L	IN1	IN3	IN1	IN3
H	L	L	IN2	IN2	IN2	IN2
H	H	L	IN2	IN3	IN2	IN3
L	L	H	IN1	IN1	IN1	
L	H	H	IN1	IN3	IN1	
H	L	H	IN2	IN2	IN2	
H	H	H	IN2	IN3	IN2	

(L, R)

IC101	: TC74HC74AP
IC102	: TC74HC00AP
IC103	: BU4053B
IC104	: LA7955
Q101 - Q110	: 2SC1740S
Q111, Q112	: 2SC1740S
Q113	: DTC124ES
L101, L102	: LFA120J
L103, L104	: LAU8R2J
L105	: LAU330J
F101	: VTF1034
F102	: VTF1011
VR101	: VRTB6VS471
VR102	: VRTB6VS472
DL101	: DTF1033

Note : Waveforms and voltages are at the PLAY

IC104 (LA7955)

Pin No.	Voltage	Pin No.	Voltage
1	4.7	11	3.8
2	0	12	5
3	4.7	13	5
4	0	14	5
5	6.8	15	3.1
6	12	16	3.1
7	4.7	17	5
8	0	18	5
9	6.8	19	5
10	0	20	3.1

: Video Signal Line

: C-Signal Line

4. PCB PARTS LIST

NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits(any digit apart from 0), such as 560 ohm and 47k ohm(tolerance is shown by J=5%, and K=10%).

560 Ω → 56 × 10¹ → 561 ····· RD1/8PM 5 6 1 J
47k Ω → 47 × 10³ → 473 ····· RD1/4PS 4 7 3 J
0.5 Ω → 0R5 ····· RN2H 0 R 5 K
1 Ω → 010 ····· RS1P 0 1 0 K

Ex.2 When there are 3 effective digits(such as in high precision metal film resistors).

5.62k Ω → 562 × 10¹ → 5621 ····· RN1/4PC 5 6 2 1 F

Mark	No.	Description	Part No.
LIST OF ASSEMBLIES			
◉	MOTHER ASSEMBLY		VWM1276
NSP	├ MAIN ASSEMBLY		VWX1123
NSP	└ AUDIO ASSEMBLY		VWX1124
◉	FLKB ASSEMBLY		VWM1278
NSP	├ PSWB ASSEMBLY		VWG1315
NSP	├ FLKY ASSEMBLY		VWG1336
NSP	└ HEPB ASSEMBLY		VWV1254
◉	SYPS ASSEMBLY		VWR1146
◉	SCRB ASSEMBLY		VWV1248
◉	MACB ASSEMBLY		VWM1250
NSP	├ FG ASSEMBLY		VWG1304
NSP	├ PKSB ASSEMBLY		VWG1305
NSP	├ CAMB ASSEMBLY		VWG1306
NSP	├ LOSB ASSEMBLY		VWG1307
NSP	└ LOMB ASSEMBLY		VWG1308
FG ASSEMBLY			
SEMICONDUCTOR			
	D1		GP1S51
PKSB ASSEMBLY			
SWITCHES			
	S4, 5	PUSH SWITCH	DSG1015
LOSB ASSEMBLY			
SWITCHES			
	S1-3	PUSH SWITCH	DSG1015

Mark	No.	Description	Part No.
CAMB ASSEMBLY			
SEMICONDUCTORS			
	Q10	TRANSISTOR	2SC1740S
RESISTORS			
	R10	CARBON FILM RESISTOR	RD1/6PM182J
	R11	CARBON FILM RESISTOR	RD1/6PM470J
OTHERS			
	CN401	CONNECTOR (23P)	VKN1073
	CN403	CONNECTOR (23P)	HLEM23R-1
LOMB ASSEMBLY			
CAPACITOR			
	C1	CERAMIC CAPACITOR	CGCYX473M25
PSWB ASSEMBLY			
SEMICONDUCTORS			
	Q204	TRANSISTOR	DTC124ES
	D211	LED	SLH34VCF04
SWITCH			
	S224	SWITCH	RSG1030
CAPACITOR			
	C210	ELECT. CAPACITOR	CEAS100M16
RESISTOR			
	R227	CARBON FILM RESISTOR	RD1/6PM151J
OTHERS			
		REMOTE CONTROL SENSOR UNIT	GP1U58X

Mark	No.	Description	Part No.
FLKY ASSEMBLY			
SEMICONDUCTORS			
	IC201	MODE CONTROL MCU	PD3214A
	IC202	RESET IC	PST529C
	Q201	TRANSISTOR	DTC124ES
	Q202	TRANSISTOR	DTC114EL
	Q203	TRANSISTOR	DTA144EL
	D201, 203	DIODE	1SS252
	D204-206	DIODE	1SS252
	D210	LED	PG3361X
SWITCHES			
	S201-223	SWITCH	RSG1030
	S225	ROTARY ENCODER	VSD1008
CAPACITORS			
	C201	ELECTR. CAPACITOR	CEAL101M6R3
	C202	CERAMIC CAPACITOR	CKPUYF223Z25
	C204	ELECTR. CAPACITOR	CEAL100M16
	C205	CERAMIC CAPACITOR	CKPUYF103Z25
	C206	ELECTR. CAPACITOR	CEAL2R2M50
	C211	CERAMIC CAPACITOR	CKPUYF223Z25
RESISTORS			
	ALL RESISTORS		RD1/6PM□□□J
OTHERS			
		FL SPACER	VEB1125
		LED HOLDER	VNL1522
	V201	FL TUBE	VAW1026
	X201	CERAMIC RESONATOR	EFOGC8004T4
SYPS ASSEMBLY			
SEMICONDUCTORS			
⚠	IC1	REGULATOR IC	NJM2930L05
⚠	IC2	LINEAR IC	NJM4558D
⚠	IC201, 202	IC PROTECTOR	ICP-N20
⚠	IC210	IC PROTECTOR	ICP-N20
⚠	IC211	IC PROTECTOR	ICP-N15
⚠	IC41	REGULATOR IC	NJM78M12FA
⚠	Q1, 2	TRANSISTOR	2SB1185
	Q21	TRANSISTOR	2SC1740S
	Q22, 23	TRANSISTOR	2SA933S
	Q24	TRANSISTOR	2SC1740S
⚠	Q25	TRANSISTOR	2SB1134
⚠	Q26	TRANSISTOR	2SD1667
⚠	Q27	TRANSISTOR	2SB1134
⚠	Q28	TRANSISTOR	2SD1667
⚠	Q3	TRANSISTOR	2SD1762
	Q4	TRANSISTOR	2SC1740S
	Q5	TRANSISTOR	2SA933S
⚠	D1		S2VB20-F1
⚠	D2	DIODE	1SR35-100AVL
⚠	D21, 22	DIODE	1SS254

Mark	No.	Description	Part No.
⚠	D23	DIODE	10ELS2
⚠	D24, 25	DIODE	1SR35-100AVL
⚠	D26	DIODE	10ELS2
⚠	D3, 31	DIODE	1SR35-100AVL
	D32, 33	SCHOTTKY DIODE	ERA83-006
⚠	D7	ZENER DIODE	MTZJ11B
COIL			
⚠	L1	SPDL CHORK COIL	VTL1043
CAPACITORS			
⚠	C1	ELECTR. CAPACITOR (6800/16)	VCH1053
	C10	ELECT. CAPACITOR	CEAS101M50
	C11, 12	CERAMIC CAPACITOR	CKPUYF103Z25
	C13	ELECT. CAPACITOR	CEAS471M16
	C14	CERAMIC CAPACITOR	CGCYX473M25
⚠	C2	ELECTR. CAPACITOR (6800/16)	VCH1053
	C21, 22	MYLAR FILM CAPACITOR	CQMA272J50
	C23, 24	CERAMIC CAPACITOR	CGCYX473M25
	C25, 26	ELECT. CAPACITOR	CEAS2R2M50
	C27, 28	MYLAR FILM CAPACITOR	CQMA223J50
	C29	ELECT. CAPACITOR	CEAS101M50
	C3	ELECT. CAPACITOR	CEAS470M10
	C31	ELECT. CAPACITOR	CEAS471M35
	C32	ELECT. CAPACITOR	CEAS220M25
	C4, 5	ELECT. CAPACITOR	CEAS470M10
⚠	C52	CAPACITOR (CERAMIC) (0.01)	VCG-048
	C6	ELECT. CAPACITOR	CEAS470M10
⚠	C7-9	CERAMIC CAPACITOR	CKPUYF223Z25
RESISTORS			
⚠	R23-26	CARBON FILM RESISTOR	RD1/2VM221J
⚠	R27-30	RESISTOR(27Ω)	DCN1003
	R41	RESISTOR(4.7Ω)	DCN1001
	OTHER RESISTORS		RD1/6PM□□□J
SCRB ASSEMBLY			
SEMICONDUCTORS			
	IC101	LOGIC IC	TC74HC74AP
	IC102	LOGIC IC	TC74HC00AP
	IC103	LOGIC IC	BU4053B
	IC104	IC	LA7955
	Q101-112	TRANSISTOR	2SC1740S
	Q113	TRANSISTOR	DTC124ES
COILS AND FILTERS			
	L101, 102	RADIAL INDUCTOR	LFA120K
	L103, 104	AXIAL INDUCTOR	LAU8R2J
	L105	AXIAL INDUCTOR	LAU330J
	F101	FILTER(4.43MHz)	VTF1034
	F102	FILTER(3.2MHz)	VTF1011
CAPACITORS			
	C101	ELECT. CAPACITOR	CEAS470M10
	C102	CERAMIC CAPACITOR	CKPUYY103N16
	C103	ELECT. CAPACITOR	CEAS470M10
	C104-108	CERAMIC CAPACITOR	CKPUYY103N16
	C109	CERAMIC CAPACITOR	CCCCH100D50

Mark	No.	Description	Part No.
	C110	CERAMIC CAPACITOR	CCCCH270J50
	C111, 112	CERAMIC CAPACITOR	CKPUYY103N16
	C113, 114	CERAMIC CAPACITOR	CKCYB681K50
	C117-119	ELECT. CAPACITOR	CEANP220M10
	C120-122	ELECT. CAPACITOR	CEAS470M10
	C125	CERAMIC CAPACITOR	CKPUYY103N16
	C126, 127	ELECT. CAPACITOR	CEAS470M10
	C128	CERAMIC CAPACITOR	CKPUYY103N16
	C129	ELECT. CAPACITOR	CEAS470M10
	C130	CERAMIC CAPACITOR	CKPUYY103N16
	C131	ELECT. CAPACITOR	CEAS100M50
	C132	CERAMIC CAPACITOR	CKPUYY103N16
	C133, 134	ELECT. CAPACITOR	CEAS100M50
	C137	AXIAL CAPACITOR	CKPUYB101K50
	C138	ELECT. CAPACITOR	CEAS100M50
	C139	AXIAL CAPACITOR	CKPUYB221K50
	C140	ELECT. CAPACITOR	CEAS100M50
	C141	AXIAL CAPACITOR	CKPUYB101K50
	C142	ELECT. CAPACITOR	CEAS100M50
	C143	AXIAL CAPACITOR	CKPUYB221K50
	C144	ELECT. CAPACITOR	CEAS100M50
	C145	AXIAL CAPACITOR	CKPUYB101K50
	C146	ELECT. CAPACITOR	CEAS100M50
	C147	AXIAL CAPACITOR	CKPUYB221K50
	C148	ELECT. CAPACITOR	CEAS100M50
	C149	AXIAL CAPACITOR	CKPUYB101K50
	C150	ELECT. CAPACITOR	CEAS100M50
	C151	AXIAL CAPACITOR	CKPUYB221K50
	C152	ELECT. CAPACITOR	CEAS100M50
	C153, 154	ELECT. CAPACITOR	CEAS221M10
	C155	ELECT. CAPACITOR	CEAS100M50
	C156	ELECT. CAPACITOR	CEAS470M10
	C157	CERAMIC CAPACITOR	CKPUYY103N16
	C158	ELECT. CAPACITOR	CEAS470M10
	C159, 160	ELECT. CAPACITOR	CEAS470M16
RESISTORS			
	VR101	SEMI-FIXED VR (470Ω)	VRTB6VS471
	VR102	SEMI-FIXED VR (4.7kΩ)	VRTB6VS472
⚠	R169, 170	RESISTOR (27Ω)	DCN1003
	OTHER RESISTORS		RD1/6PM□□□J
OTHERS			
	DL101	DELAY LINE	DTF1033
	JA101, 102	CONNECTOR	VKB1037

HEPB ASSEMBLY

FILTERS

	F201-203	COIL	VTH1016

CAPACITORS

	C221	CERAMIC CAPACITOR	CGCYF473Z25
	C222, 223	AXIAL CAPACITOR	CKPUYB101K50

RESISTOR

	VR201	VR	VCS1015

Mark	No.	Description	Part No.
OTHERS			
	JA201	JACK (PHONES)	RKN1002

MAIN ASSEMBLY

SEMICONDUCTORS

	IC101	MECHANISM CONT. MCU	PD0135A1
	IC401	VIDEO IC	PA5013A
	IC402	CDD DELAY LINE	PM0001
	IC403	IC	CXL1009P
	IC404	IC	PA0017
	IC405	CHARACTER IC	M50554-132SP
	IC601	TBC IC	PM3002
	IC602	IC	BA15218N
	IC604	LOGIC IC	TC74HC86AP
	IC605	LOGIC IC	TC4S66F
	IC606	LOGIC IC	TC7SU04F
	IC801	PRE AMP IC	CXA1081S
	IC802	SERVO IC	CXA1372S
	IC803	OP-AMP IC	NJM072L
	IC804	IC	BA15218N
	IC805	COMPARATOR	BA10393F
	IC806	OP AMP	TA8464K
	IC807	POWER OP AMP	LA6510L
	Q101	DIGITAL TRANSISTOR	DTC124EK
	Q401	TRANSISTOR	2SB1237X
	Q402	TRANSISTOR	2SD1858X
	Q403	DIGITAL TRANSISTOR	DTA124EK
	Q404	CHIP TRANSISTOR	2SC2412K
	Q431	TRANSISTOR	2SC1740S
	Q432	CHIP TRANSISTOR	2SC2412K
	Q456, 496	CHIP TRANSISTOR	2SA1037K
	Q497-501	CHIP TRANSISTOR	2SC2412K
	Q502, 511	CHIP TRANSISTOR	2SA1037K
	Q521	DIGITAL TRANSISTOR	DTA124EK
	Q522	DIGITAL TRANSISTOR	DTC124EK
	Q523	CHIP TRANSISTOR	2SA1037K
	Q524	TRANSISTOR	2SC1740S
	Q530, 531	DIGITAL TRANSISTOR	DTC124EK
	Q532	TRANSISTOR	2SA933S
	Q540	CHIP TRANSISTOR	2SA1037K
	Q601-605	CHIP TRANSISTOR	2SC2412K
	Q606	DIGITAL TRANSISTOR	DTA124EK
	Q607	CHIP TRANSISTOR	2SA1037K
	Q608, 609	CHIP TRANSISTOR	2SC2412K
	Q611	CHIP TRANSISTOR	2SA1037K
	Q612	DIGITAL TRANSISTOR	DTC124EK
	Q613, 614	CHIP TRANSISTOR	2SA1037K
	Q615	DIGITAL TRANSISTOR	DTC124EK
	Q801	CHIP TRANSISTOR	2SC2412K
	Q802	CHIP TRANSISTOR	2SA1037K
	Q803-805	CHIP TRANSISTOR	2SC2412K
	Q807	CHIP TRANSISTOR	2SC2412K
	Q808	DIGITAL TRANSISTOR	DTA124EK
	Q809	TRANSISTOR	2SA1399
	Q810	DIGITAL TRANSISTOR	DTA124EK

Mark	No.	Description	Part No.
	Q811	CHIP TRANSISTOR	2SC2412K
	Q812	CHIP TRANSISTOR	2SA1037K
	Q813	CHIP TRANSISTOR	2SC2412K
	Q814	DIGITAL TRANSISTOR	DTA124EK
	Q901, 902	DIGITAL TRANSISTOR	DTC124EK
	Q903	DIGITAL TRANSISTOR	DTA124EK
	Q908	N-FET	2SK184
	Q909	CHIP TRANSISTOR	2SA1037K
	Q911, 912	DIGITAL TRANSISTOR	DTC124EK
	Q913	DIGITAL TRANSISTOR	DTA124EK
	Q914	DIGITAL TRANSISTOR	DTC124EK
	Q915	CHIP TRANSISTOR	2SC2412K
	Q917	CHIP TRANSISTOR	2SA1037K
	Q918	CHIP TRANSISTOR	2SC2412K
	D101-103	DIODE	1SS254
	D401-403	DIODE	1SS254
	D502	DIODE	1SS254
	D603	DIODE	DA204K
	D801-803	DIODE	1SS254
	D805	DIODE	1SR35-100AVL
	D806, 807	DIODE	1SS254
	D810, 811	DIODE	DA204K

COILS

	L411	AXIAL INDUCTOR	LAU680J
	L414, 415	AXIAL INDUCTOR	LAU120J
	L430	AXIAL INDUCTOR	LAU150J
	L431	AXIAL INDUCTOR	LAU680J
	L432	AXIAL INDUCTOR	LAU430J
	L433	AXIAL INDUCTOR	LAU470J
	L434	AXIAL INDUCTOR	LAU220J
	L441	AXIAL INDUCTOR	LAU270J
	L442	AXIAL INDUCTOR	LAU390J
	L443	AXIAL INDUCTOR	LAU120J
	L457	RADIAL INDUCTOR	LFA561J
	L458	RADIAL INDUCTOR	LFA221J
	L496	AXIAL INDUCTOR	LAU220J
	L497	AXIAL INDUCTOR	LAU151J
	L511	AXIAL INDUCTOR	LAU820J
	L521	AXIAL INDUCTOR	LAU120J
	L522	AXIAL INDUCTOR	LAU560J
	L523	AXIAL INDUCTOR	LAU390J
	L524	RADIAL INDUCTOR	LFA561J
	L525	AXIAL INDUCTOR	LAU330J
	L530	AXIAL INDUCTOR	LAU220J
	L601	AXIAL INDUCTOR	LAU470J
	L603	AXIAL INDUCTOR	LAU220J
	L801	AXIAL INDUCTOR	LAU100J
	L802	AXIAL INDUCTOR	LAU151J
	L803	AXIAL INDUCTOR	LAU181J
	L804	AXIAL INDUCTOR	LAU151J

CAPACITORS

	VC401, 901	VARIABLE CAPACITOR(20P)	VCM-008
	C101	ELECT. CAPACITOR	CEAS470M16
	C102	CERAMIC CAPACITOR	CKSQYF473Z25
	C103	CHIP CAPACITOR	CKSQYF103Z50
	C104, 105	CHIP CAPACITOR	CCSQCH330J50
	C106	CHIP CAPACITOR	CKSQYF103Z50
	C107	CERAMIC CAPACITOR	CKSQYF104Z25
	C108, 109	CHIP CAPACITOR	CKSQYF103Z50
	C120-122	CHIP CAPACITOR	CKSQYF103Z50
	C123	CAPACITOR ARRAY (100P×4)	VCG1022
	C124, 125	CHIP CAPACITOR	CCSQCH101J50
	C401	ELECT. CAPACITOR	CEANP2R2M50
	C403, 404	CERAMIC CAPACITOR	CKSQYF104Z25
	C405	ELECT. CAPACITOR	CEANP2R2M50
	C407, 408	CERAMIC CAPACITOR	CKSQYF473Z25
	C411, 412	CHIP CAPACITOR	CCSQCH820J50
	C414	CHIP CAPACITOR	CKSQYF103Z50
	C415	CHIP CAPACITOR	CCSQCH100D50
	C416	CHIP CAPACITOR	CCSQCH330J50
	C417	CHIP CAPACITOR	CCSQCH100D50
	C418	CHIP CAPACITOR	CKSQYF103Z50
	C419	CHIP CAPACITOR	CCSQCH101J50
	C421, 422	CHIP CAPACITOR	CKSQYF103Z50
	C423, 424	CHIP CAPACITOR	CCSQCH180J50
	C425, 426	CHIP CAPACITOR	CKSQYF103Z50
	C427	CERAMIC CAPACITOR	CKSQYF473Z25
	C428	ELECT. CAPACITOR	CEAS470M10
	C429	CERAMIC CAPACITOR	CKSQYF104Z25
	C430	CHIP CAPACITOR	CCSQCH120J50
	C431	CHIP CAPACITOR	CCSQCH050C50
	C433	CHIP CAPACITOR	CCSQCH390J50
	C434	ELECT. CAPACITOR	CEAS101M10
	C435	CERAMIC CAPACITOR	CKSQYF104Z25
	C436	ELECT. CAPACITOR	CEAS010M50
	C437	CHIP CERAMIC C.	CCSQCH220J50
	C438	CHIP CAPACITOR	CCSQCH050C50
	C439, 440	CHIP CERAMIC C.	CCSQCH150J50
	C441	CHIP CAPACITOR	CCSQCH050C50
	C442	CERAMIC CAPACITOR	CKSQYF104Z25
	C443	ELECT. CAPACITOR	CEJANP4R7M16
	C444	MYLAR FILM CAPACITOR	CQMA272J50
	C445	ELECT. CAPACITOR	CEAS101M10
	C446	MYLAR FILM CAPACITOR	CQMA153J50
	C447	CHIP CAPACITOR	CCSQCH680J50
	C448	CERAMIC CAPACITOR	CKSQYF473Z25
	C450	CHIP CAPACITOR	CCSQCH100D50
	C451	CHIP CAPACITOR	CCSQCH270J50
	C452	ELECT. CAPACITOR	CEAS470M10
	C455	CHIP CAPACITOR	CCSQCH470J50
	C456	CHIP CAPACITOR	CCSQCH121J50
	C457	ELECT. CAPACITOR	CEAS101M10
	C458-460	CHIP CAPACITOR	CKSQYF103Z50
	C461	CHIP CAPACITOR	CCSQCH101J50
	C462	CHIP CAPACITOR	CCSQCH330J50
	C463	CHIP CERAMIC C.	CCSQCH271J50
	C466, 467	CERAMIC CAPACITOR	CKSQYF473Z25
	C471	AUDIO FILM CAPACITOR	CFTXA224J50
	C472, 473	ELECT. CAPACITOR	CEAS3R3M50
	C474	ELECT. CAPACITOR	CEAS470M10
	C475, 476	CHIP CAPACITOR	CKSQYF103Z50

Mark	No.	Description	Part No.
	C477	ELECT. CAPACITOR	CEAS3R3M50
	C479-481	CERAMIC CAPACITOR	CKSQYF104Z25
	C483	CERAMIC CAPACITOR	CKSQYF473Z25
	C484	ELECT. CAPACITOR	CEAS470M16
	C485	CHIP CERAMIC C.	CCSQCH180J50
	C486	CHIP CAPACITOR	CKSQYF103Z50
	C487, 488	CERAMIC CAPACITOR	CKSQYF473Z25
	C489, 490	ELECT. CAPACITOR	CEAS101M10
	C495	CHIP CAPACITOR	CCSQCH270J50
	C496	CHIP CAPACITOR	CCSQCH101J50
	C498	CHIP CAPACITOR	CCSQCH820J50
	C499	ELECT. CAPACITOR	CEAS470M16
	C500	CHIP CAPACITOR	CCSQCH100D50
	C501, 502	ELECT. CAPACITOR	CEAS470M10
	C503	CERAMIC CAPACITOR	CKSQYF104Z25
	C504	CERAMIC CAPACITOR	CKSQYF473Z25
	C505, 506	CERAMIC CAPACITOR	CKSQYF104Z25
	C507, 508	CHIP CERAMIC C.	CCSQCH271J50
	C509	CHIP CAPACITOR	CCSQCH151J50
	C510	CHIP CAPACITOR	CCSQCH270J50
	C511	CERAMIC CAPACITOR	CKSQYF104Z25
	C512	ELECT. CAPACITOR	CEAS470M10
	C513	CERAMIC CAPACITOR	CKSQYF104Z25
	C514	AUDIO FILM CAPACITOR	CFTXA104J50
	C515	AUDIO FILM CAPACITOR	CFTXA683J50
	C516	CHIP CERAMIC C.	CCSQCH220J50
	C517	AUDIO FILM CAPACITOR	CFTXA683J50
	C520	CHIP CAPACITOR	CCSQCH180J50
	C521	ELECT. CAPACITOR	CEAS470M10
	C522	ELECT. CAPACITOR	CEAS100M50
	C524	CHIP CAPACITOR	CCSQCH390J50
	C525	ELECT. CAPACITOR	CEAS470M10
	C526	CERAMIC CAPACITOR	CKSQYF104Z25
	C527	CERAMIC CAPACITOR	CKSQYF473Z25
	C528	CHIP CAPACITOR	CCSQCH390J50
	C529	CHIP CAPACITOR	CCSQCH180J50
	C530	ELECT. CAPACITOR	CEANP100M16
	C531	CERAMIC CAPACITOR	CKSQYF104Z25
	C532	CHIP CAPACITOR	CCSQCH100D50
	C533	ELECT. CAPACITOR	CEAS470M16
	C535	CHIP CAPACITOR	CKSQYF103Z50
	C536	CHIP CAPACITOR	CCSQCH910J50
	C537	ELECT. CAPACITOR	CEAS010M50
	C549	CERAMIC CAPACITOR	CCSQCH560J50
	C550	CHIP CAPACITOR	CCSQCH151J50
	C551	ELECT. CAPACITOR	CEANP220M10
	C552	ELECT. CAPACITOR	CEAS470M10
	C553, 554	CHIP CAPACITOR	CKSQYF103Z50
	C555	CHIP CAPACITOR	CCSQCH100D50
	C556	CHIP CAPACITOR	CCSQCH050C50
	C557	CHIP CAPACITOR	CKSQYF103Z50
	C558	ELECT. CAPACITOR	CEAS470M10
	C559, 560	CHIP CAPACITOR	CCSQCH100D50
	C561, 562	CHIP CAPACITOR	CKSQYF103Z50
	C565	CHIP CAPACITOR	CCSQCH050C50

Mark	No.	Description	Part No.
	C566	CHIP CAPACITOR	CKSQYF103Z50
	C570	CHIP CAPACITOR	CCSQCH151J50
	C601	CERAMIC CAPACITOR	CKSQYF473Z25
	C602	CHIP CAPACITOR	CKSQYF103Z50
	C603	AUDIO FILM CAPACITOR	CFTXA224J50
	C604	CHIP CAPACITOR	CKSQYF103Z50
	C605-607	AUDIO FILM CAPACITOR	CFTXA102J50
	C608	AUDIO FILM CAPACITOR	CFTXA152J50
	C609	CHIP CAPACITOR	CCSQCH820J50
	C610	AUDIO FILM CAPACITOR	CFTXA563J50
	C611	MYLAR FILM CAPACITOR	CQMA272J50
	C612	CHIP CAPACITOR	CCSQCH180J50
	C613	ELECT. CAPACITOR	CEANP220M10
	C614	AUDIO FILM CAPACITOR	CFTXA332J50
	C615, 616	CHIP CAPACITOR	CKSQYF103Z50
	C617	AUDIO FILM CAPACITOR	CFTXA563J50
	C618	MYLAR FILM CAPACITOR	CQMA103J50
	C619	ELECT. CAPACITOR	CEANP2R2M50
	C620, 623	ELECT. CAPACITOR	CEANP220M10
	C625	ELECT. CAPACITOR	CEJANP4R7M16
	C626	AUDIO FILM CAPACITOR	CFTXA332J50
	C627	MYLAR FILM CAPACITOR	CQMA222J50
	C628	ELECT. CAPACITOR	CEJANP4R7M16
	C629	CERAMIC CAPACITOR	CKSQYF473Z25
	C630	CHIP CAPACITOR	CCSQCH270J50
	C631	CHIP CAPACITOR	CCSQCH100D50
	C632	CHIP CAPACITOR	CCSQCH101J50
	C633	CHIP CAPACITOR	CCSQCH180J50
	C634	CHIP CAPACITOR	CCSQCH121J50
	C635	CERAMIC CAPACITOR	CKSQYF104Z25
	C636	CHIP CAPACITOR	CCSQCH121J50
	C637, 638	CHIP CAPACITOR	CCSQSL471J50
	C639	CHIP CERAMIC C.	CCSQCH221J50
	C640	AUDIO FILM CAPACITOR	CFTXA102J50
	C641	CHIP CAPACITOR	CCSQCH151J50
	C642	CHIP CAPACITOR	CKSQYF103Z50
	C643	ELECT. CAPACITOR	CEAS470M10
	C645, 646	CHIP CAPACITOR	CKSQYF103Z50
	C650	ELECT. CAPACITOR	CEAS470M10
	C651	CHIP CAPACITOR	CKSQYF103Z50
	C660	CHIP CERAMIC C.	CCSQCH221J50
	C661, 662	CHIP CAPACITOR	CKSQYF103Z50
	C801	ELECT. CAPACITOR	CEAS470M10
	C802	ELECT. CAPACITOR	CEAS470M16
	C803-805	CHIP CAPACITOR	CKSQYF103Z50
	C806	CHIP CAPACITOR	CCSQCH820J50
	C807	CHIP CAPACITOR	CKSQYF103Z50
	C808	CHIP CAPACITOR	CCSQCH680J50
	C809	CHIP CAPACITOR	CCSQCH101J50
	C810	CHIP CAPACITOR	CCSQCH270J50
	C811	CHIP CAPACITOR	CCSQCH101J50
	C812	CHIP CAPACITOR	CCSQCH680J50
	C813	CERAMIC CAPACITOR	CKSQYF473Z25
	C814	CHIP CAPACITOR	CKSQYF103Z50
	C815	CERAMIC CAPACITOR	CKSQYF473Z25

Mark	No.	Description	Part No.
	C816	CHIP CAPACITOR	CCSQCH050C50
	C817, 818	CHIP CAPACITOR	CKSQYF103Z50
	C831	ELECT. CAPACITOR	CEAS010M50
	C832	CHIP CAPACITOR	CKSQYF103Z50
	C841	CHIP CERAMIC C.	CCSQCH471J50
	C842	ELECT. CAPACITOR	CEAS101M10
	C843	CHIP CAPACITOR	CCSQCH270J50
	C844	CHIP CAPACITOR	CCSQCH050C50
	C845, 846	CHIP CAPACITOR	CCSQCH470J50
	C847	CERAMIC CAPACITOR	CCSQCH510J50
	C848	ELECT. CAPACITOR	CEANP100M16
	C849	ELECT. CAPACITOR	CEJAR47M50
	C850, 855	CHIP CAPACITOR	CKSQYF103Z50
	C856, 857	CHIP CAPACITOR	CKSQYF103Z50
	C858	ELECT. CAPACITOR	CEANP470M10
	C901, 902	ELECT. CAPACITOR	CEAS470M16
	C904	CHIP CAPACITOR	CKSQYF103Z50
	C911, 912	CERAMIC CAPACITOR	CKSQYF104Z25
	C913	CERAMIC CAPACITOR	CKSQYB333K25
	C914, 915	CHIP CAPACITOR	CKSQYF103Z50
	C917	CHIP CAPACITOR	CKSQYF103Z50
	C918	CHIP CERAMIC C.	CCSQCH271J50
	C919	CERAMIC CAPACITOR	CKSQYF104Z25
	C920	CERAMIC CAPACITOR	CKSQYB562K50
	C922	CERAMIC CAPACITOR	CKSQYF104Z25
	C923	CERAMIC CAPACITOR	CKSQYB562K50
	C924	CERAMIC CAPACITOR	CKSQYF104Z25
	C925	CERAMIC CAPACITOR	CKSQYB333K25
	C926	ELECT. CAPACITOR	CEJANP4R7M16
	C927	CERAMIC CAPACITOR	CKSQYF104Z25
	C928	CHIP CAPACITOR	CKSQYF103Z50
	C929	CERAMIC CAPACITOR	CKSQYB333K25
	C930	CHIP CERAMIC C.	CCSQCH271J50
	C931	CHIP CAPACITOR	CKSQYF103Z50
	C932	ELECT. CAPACITOR	CEJANP4R7M16
	C933, 934	CHIP CAPACITOR	CKSQYF103Z50
	C935	ELECT. CAPACITOR	CEJAR47M50
	C936	CERAMIC CAPACITOR	CKSQYB333K25
	C937-939	CHIP CAPACITOR	CKSQYF103Z50
	C940	CHIP CAPACITOR	CKSQYB102K50
	C941, 942	ELECT. CAPACITOR	CEHAQ100M50
	C943	CERAMIC CAPACITOR	CKSQYF473Z25
	C944	CHIP CAPACITOR	CKSQYB102K50
	C945	ELECT. CAPACITOR	CEAS010M50
	C946	CHIP CAPACITOR	CKSQYF103Z50
	C947	CERAMIC CAPACITOR	CKSQYF104Z25
	C948, 949	CERAMIC CAPACITOR	CKSQYF473Z25
	C950	CERAMIC CAPACITOR	CKSQYF104Z25
	C951	CERAMIC CAPACITOR	CKSQYF473Z25
	C952	CERAMIC CAPACITOR	CKSQYF104Z25
	C956	CERAMIC CAPACITOR	CKSQYF473Z25
	C957	CHIP CERAMIC C.	CCSQCH271J50
	C958	CAPACITOR (ALUMINUM) (47 μ/16V)	VCH1115
	C959	CERAMIC CAPACITOR	CKSQYF104Z25
	C999	CHIP CERAMIC C.	CCSQCH471J50

Mark	No.	Description	Part No.
RESISTORS			
	VR441	SEMI-FIXED VR(22kΩ)	VRTB6VS223
	VR481, 482	SEMI-FIXED VR(4.7kΩ)	VRTB6VS472
	VR521	SEMI-FIXED VR(4.7kΩ)	VRTB6VS472
	VR601	SEMI-FIXED VR(2.2kΩ)	VRTB6VS222
	VR603, 604	SEMI-FIXED VR(47kΩ)	VRTB6VS473
	VR605, 606	SEMI-FIXED VR(33kΩ)	VRTB6VS333
	VR607	SEMI-FIXED VR(47kΩ)	VRTB6VS473
	R406	CARBON FILM RESISTOR	RD1/6PM224J
	R415, 416	METALFILM RESISTOR	RN1/6PQ3002F
	R431	CARBON FILM RESISTOR	RD1/6PM510J
	R434, 438	METALFILM RESISTOR	RN1/6PQ□□□□F
	R496	CARBON FILM RESISTOR	RD1/6PM101J
	R511	METALFILM RESISTOR	RN1/6PQ2002F
	R558, 564	CARBON FILM RESISTOR	RD1/6PM102J
	R591, 593	CARBON FILM RESISTOR	RD1/6PM□□□J
	R605, 619	CARBON FILM RESISTOR	RD1/6PM□□□J
	R631, 667	CARBON FILM RESISTOR	RD1/6PM□□□J
	R668, 817	CARBON FILM RESISTOR	RD1/6PM□□□J
	R845, 846	CARBON FILM RESISTOR	RD1/6PM470J
	R854	CARBON FILM RESISTOR	RD1/6PM225J
	OTHER RESISTORS		RS1/10S□□□J
OTHERS			
		TERMINAL	VNE1841
	CN103	CONNECTOR (23P)	HLEM23S-1
	JA2	JACK	PKN1005
	JA3, 4	JACK/12V	PKN1004
	X101	CERAMIC RESONATOR (9MHz)	VSS1040
	X401	CRYSTAL RESONATOR (17.734MHz)	VSS1019
	X601	CRYSTAL RESONATOR (14.22MHz)	VSS1053

AUDIO ASSEMBLY

SEMICONDUCTORS

	IC201	EFM DEMODULATION IC	CXD2500AQ
	IC202	REGULATOR IC	NJM78L08A
	IC205	IC	BA15218N
	IC206	D/A CONVERTER IC	PD2026A
	IC207, 208	OP-AMP IC	BA15218
	IC210	REGULATOR IC	NJM79L08A
	IC211	OP-AMP IC	BA15218
	Q203	DIGITAL TRANSISTOR	DTA124EK
	Q204, 205	TRANSISTOR	2SD2144S
	Q206	DIGITAL TRANSISTOR	DTC124EK
	Q207, 210	DIGITAL TRANSISTOR	DTA124EK
	Q212, 213	DIGITAL TRANSISTOR	DTA124EK
	Q220	CHIP TRANSISTOR	2SC2412K
	Q221	DIGITAL TRANSISTOR	DTA124EK
	Q222, 223	CHIP TRANSISTOR	2SA1037K
	D201	VARI-CAP	FC54M
	D202, 205	DIODE	1SS254
	D206, 207	DIODE	1SS254
	D210	SCHOTTKY DIODE	ERA83-006

Mark	No.	Description	Part No.
COILS AND FILTERS			
	L201, 202	AXIAL INDUCTOR	LAU010K
	L203	AXIAL INDUCTOR	LAU220J
	L204, 205	AXIAL INDUCTOR	LAU010K
	F201, 301	COIL	VTH1016
	F302, 303	COIL	VTH1016
CAPACITORS			
	C201	CERAMIC CAPACITOR	CKSQYF473Z25
	C202	AUDIO FILM CAPACITOR	CFTXA152J50
	C203	ELECT. CAPACITOR	CEAS470M10
	C204	CERAMIC CAPACITOR	CKSQYF104Z25
	C205	ELECT. CAPACITOR	CEAS470M16
	C206	CHIP CAPACITOR	CKSQYF103Z50
	C207	ELECT. CAPACITOR	CEAS471M10
	C208	ELECT. CAPACITOR	CEAS470M10
	C209, 210	CERAMIC CAPACITOR	CKSQYF104Z25
	C211	ELECT. CAPACITOR	CEAS470M10
	C212	CERAMIC CAPACITOR	CKSQYF104Z25
	C213, 216	CHIP CAPACITOR	CKSQYF103Z50
	C217, 218	CHIP CAPACITOR	CKSQYF103Z50
	C219	CERAMIC CAPACITOR	CKSQYF104Z25
	C220, 221	CHIP CERAMIC C.	CCSQCH271J50
	C225, 226	ELECT. CAPACITOR	CEAS470M10
	C228	ELECT. CAPACITOR	CEAS100M50
	C230	ELECT. CAPACITOR	CEAS470M10
	C231	CHIP CAPACITOR	CKSQYF103Z50
	C232	CHIP CAPACITOR	CCSQCH120J50
	C234, 251	CHIP CAPACITOR	CKSQYF103Z50
	C252, 253	ELECT. CAPACITOR	CEAS470M10
	C254	CERAMIC CAPACITOR	CKSQYF104Z25
	C255	ELECT. CAPACITOR	CEAS471M10
	C256	ELECT. CAPACITOR	CEAS470M10
	C257	ELECT. CAPACITOR	CEAS471M10
	C258-263	CHIP CAPACITOR	CCSQCH390J50
	C264, 265	AUDIO FILM CAPACITOR	CFTXA152J50
	C266, 267	CHIP CAPACITOR	CKSQYB682K50
	C268, 269	AUDIO FILM CAPACITOR	CFTXA102J50
	C270-273	ELECT. CAPACITOR	CEAS470M10
	C274, 275	ELECT. CAPACITOR	CEANP220M10
	C279	ELECT. CAPACITOR	CEAS471M10
	C283	ELECT. CAPACITOR	CEAS470M10
	C284, 285	ELECT. CAPACITOR	CEAS100M50
	C301	ELECT. CAPACITOR	CEANP220M10
	C303	ELECT. CAPACITOR	CEAS470M10
	C304-306	CHIP CAPACITOR	CKSQYF103Z50
	C309	ELECT. CAPACITOR	CEAS470M10
	C310, 311	CERAMIC CAPACITOR	CKSQYF104Z25
	C320	CHIP CAPACITOR	CKSQYF103Z50
	C322	CERAMIC CAPACITOR	CKSQYF473Z25
	C323, 324	CHIP CAPACITOR	CKSQYF103Z50
	C325, 326	CERAMIC CAPACITOR	CKSQYF104Z25
	C563	ELECT. CAPACITOR	CEAS221M6R3

Mark	No.	Description	Part No.
RESISTORS			
	R212, 213	CARBON FILM RESISTOR	RD1/6PM470J
	R220-222	CARBON FILM RESISTOR	RD1/6PM□□□J
⚠	R234	RESISTOR (4.7Ω)	DCN1001
	R259-269	CARBON FILM RESISTOR	RD1/6PM□□□J
	R271, 272	CARBON FILM RESISTOR	RD1/6PM222J
	R274-276	CARBON FILM RESISTOR	RD1/6PM471J
	R293	CARBON FILM RESISTOR	RD1/6PM471J
	R566, 587	CARBON FILM RESISTOR	RD1/6PM□□□J
OTHERS			
		TERMINAL	VNE1841
	CN301	5P TOP POST (NH)	B5P-SHF-1AA
	JA6	JACK (3P)	VKB1049
	JA8	OPTICAL OUTPUT JACK	TOTX178
	X201	CRYSTAL RESONATOR(16MHz)	VSS1057

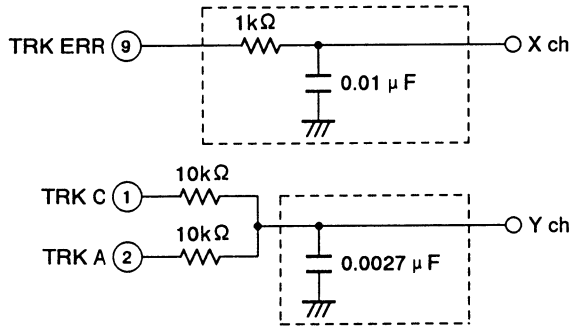
5. ADJUSTMENTS

5.1 PRELIMINARIES

• Jigs for Adjustment

- CD test disc (STD - 901 or STD - 902)
- LD test disc (GGV1003 and GGV1007)
- (−) screwdriver (medium)
- (−) screwdriver (small)
- Hexagonal wrench driver (straight type, size: 3mm)
- Resistors (10kΩ × 2, 47kΩ)
- Dual - trace oscilloscope (with delay)
- AF oscillator
- Frequency counter
- TV monitor
- Low-pass filter

Use the low-pass filters below in the coarse centering adjustment 2. and fine centering adjustment 6. when the S/N of the waveform is hard to observe.



• Rack Assembly During Centering Adjustment

The S - IN position (without hitting the mechanism stopper) of the rack assembly during centering adjustment is indicated below.

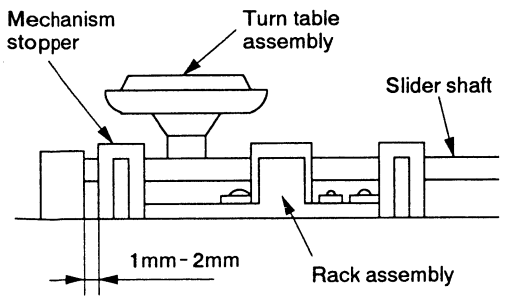


Fig. 1 Right side view

• Adjustment Locations

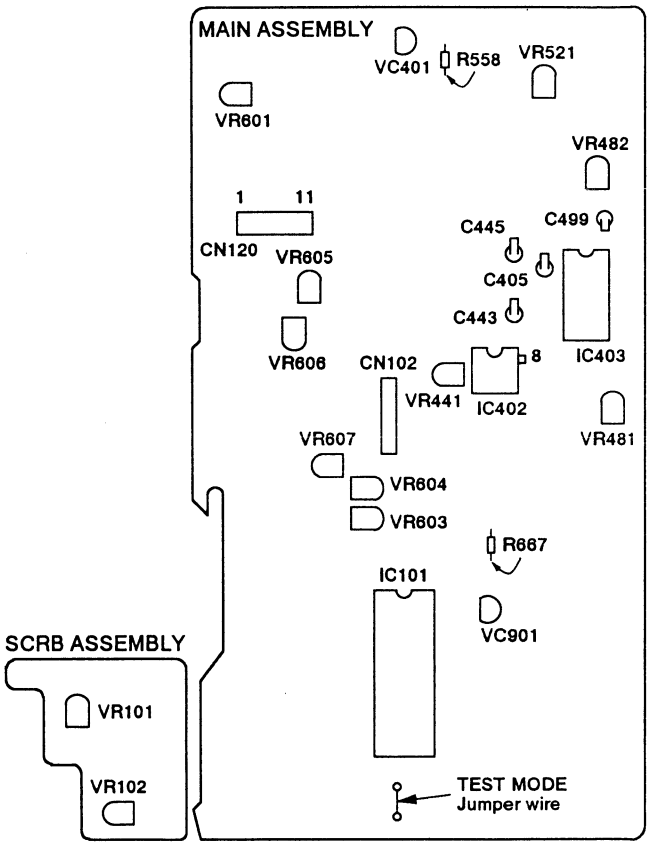
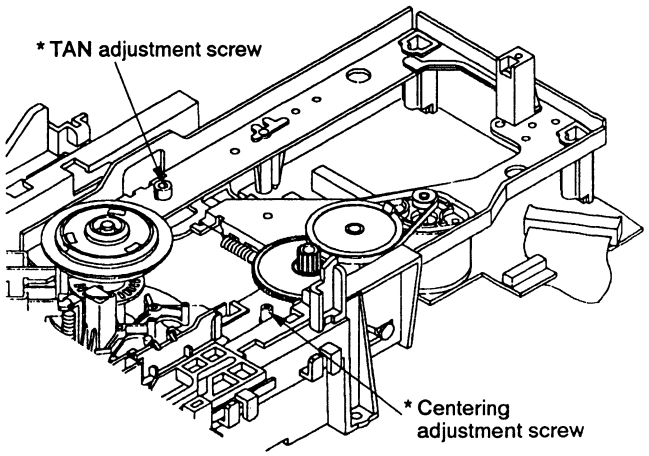


Fig. 2 MAIN and SCRB assemblies section



* : As the adjustment range of both the TAN and centering adjustment screws is only ± 90° form the center, do not turn the screws beyond this range.

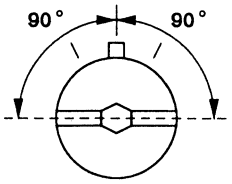


Fig. 3 TILT base section

• Test Mode

1) Activating the Test Mode
   1. While power is ON, connect the Test mode jumper wire (Fig. 2) to the GND for about one second.
   2. After checking whether the FL display device is fully lit, disconnect the Test mode jumper wire from GND.
2) Canceling the Test Mode
   1. Turn the power OFF.

• Key operation in the Test mode

Player Status	Key Operation	Function	Remarks
Tray Open	⏮/⏭ SKIP (Refer to Note 1)	⏮: Shifts the tray in the closed direction and also raises the turn table while it is held down. ⏭: Shifts the tray in the open direction and also lowers the turn table while it is held down.	
Tray Open	▶ Play	Clamps	
Clamp	▶ Play	Turns the disc through TRK Servo Open	TRK-OFF
TRK Servo Open	▶ Play	TRK Servo Close	TRK-ON
TILT Neutral	+MULTI-SPEED	TILT Servo Close	T-□:ON
TILT ON	-MULTI-SPEED	TILT Neutral	T-□:N
TILT Neutral or ON	⏮/⏭ SKIP	Setting TILT Servo to OFF, can force TILT to move.	T-1 to T-E
Clamp	◀◀/▶▶ SCAN	Can force the slider to move	S-LD S-CDV S-CD S-IN
Play	❙❙ PAUSE	Still	
Play	■ STOP	Stop	
Stop	▲ OPEN	Open	
Play	[+10] ⇩ [0] to [9] ⇩ [▶ PLAY]	Set to SEARCH lead address input mode. Designates the SEARCH lead address through keys 0 to 9. Press the CLEAR [C] key if the designated address is incorrect. Searches the designated address upon pressing the PLAY key.	

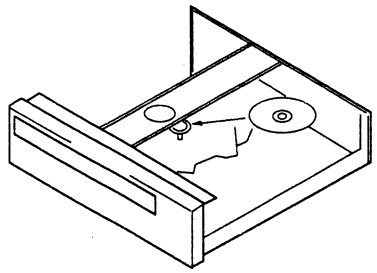
Note 1: Press SKIP (⏮/⏭) keys after the tray is set to open state by pressing OPEN (▲) key.
In tray open state, pressing PLAY (▶) key causes is to TILT control state and SKIP keys cannot function properly.

• Player Operation in the Test Mode

Operate the player by selecting a test mode function with the keys on the player or on the remote control unit.

• CD PLAYBACK

① Place the CD disc on the turn table.



② Press the PLAY (▶) key once.
(Twin gear starts to move.)

③ Push the cam plate (Fig. 4) in the direction of the arrow and wait until the CD disc is clamped.

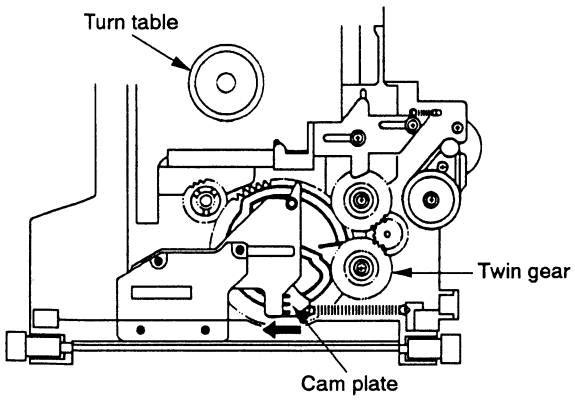
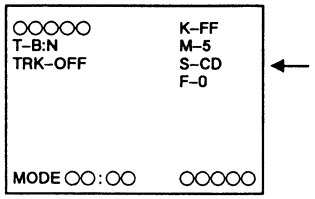


Fig. 4

④ Press the ◀◀ or ▶▶ keys to appear "S - CD" on the TV screen display.

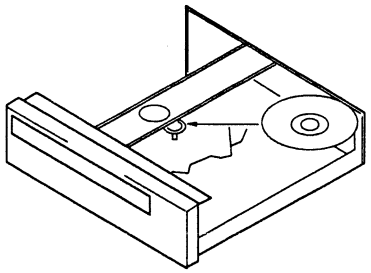


TV screen display

⑤ Press the PLAY (▶) key twice, disc will be normally playbacked.

• LD PLAYBACK

① Place the LD disc on the turn table.

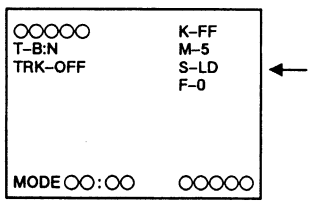


② Press the PLAY (▶) key once. (Twin gear starts to move.)

③ Press the SKIP REV (|◀◀) key to raise the turn table (spindle motor section) while pressing the cam plate (Fig. 4) in the direction of the arrow.
Raise it to the position where the LD disc can be easily placed on the turn table.
If the turn table is raised too high, lower it with the SKIP FWD (▶▶|) key.

④ Place the LD disc on the turn table and press the PLAY (▶) key once to clamp the disc.

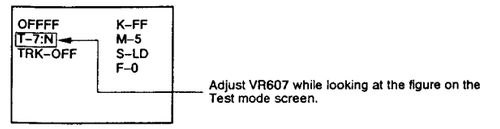
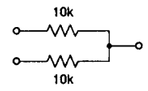
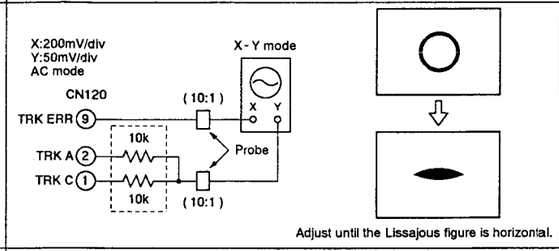
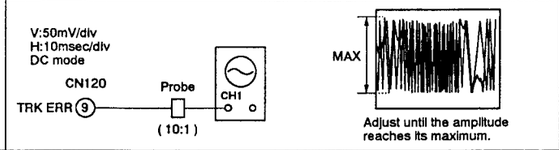
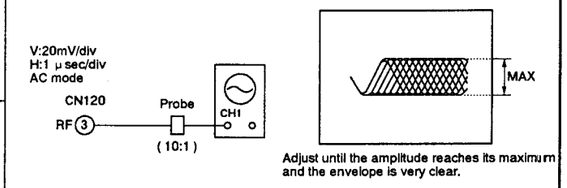
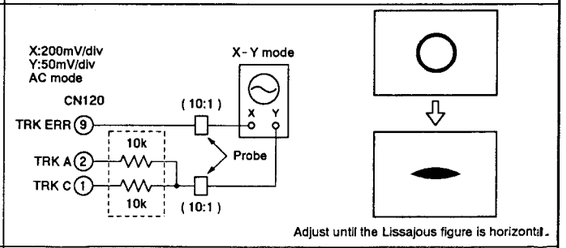
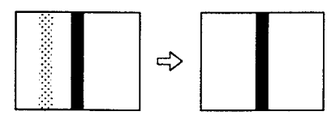
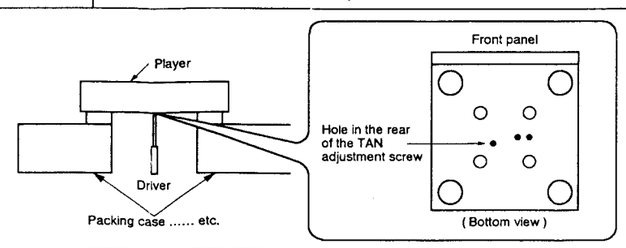
⑤ Press the ◀◀ or ▶▶ keys to appear "S - LD" on the TV screen display.

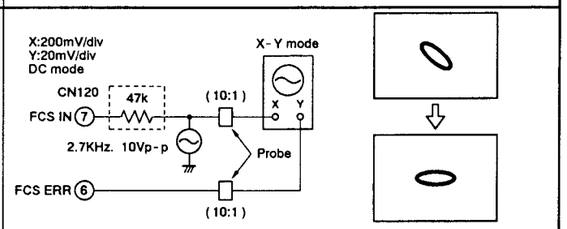
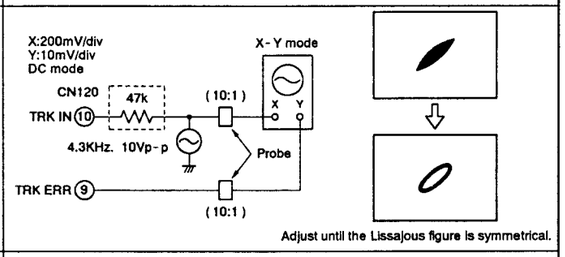
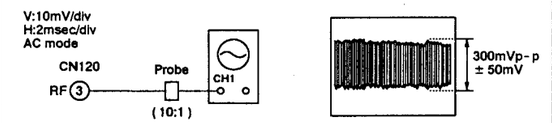
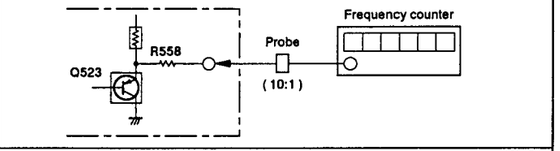
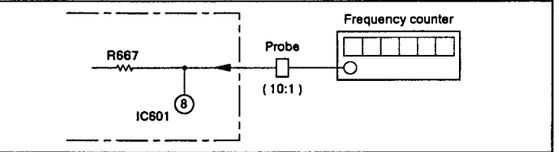
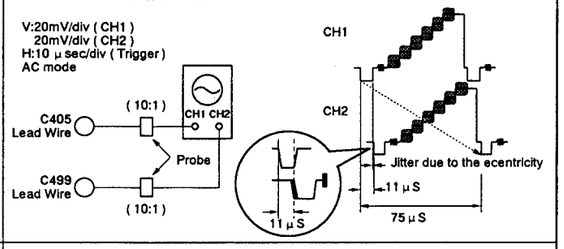
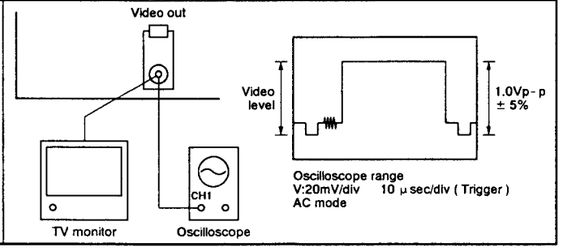


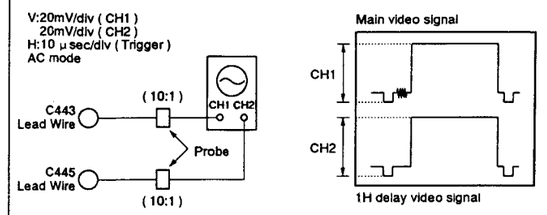
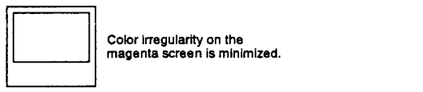
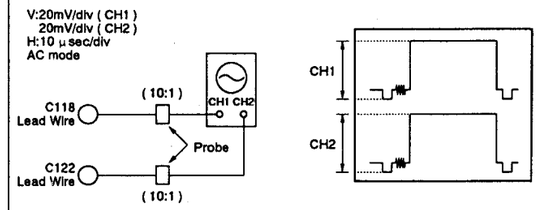
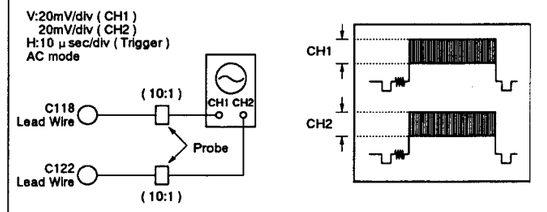
TV screen display

⑥ Press the PLAY (▶) key twice, disc will be normally playbacked.

5.2 ADJUSTMENT TABLE

	Adjustment name	Adjustment point	Measuring equipment and jigs	Measurement point	Player condition	Adjustment procedure	Waveform and connection diagram
1	Tilt Offset Check and Adjustment	VR607	• TV monitor	Tilt indication on Test mode screen	• Power ON • Test mode • Disc not installed	1. Check if the tilt indication on the Test mode screen is at T-6 to T-8. 2. If the tilt indication is not at T-6 to T-8, adjust VR607 until the tilt indication reaches T-6 to T-8.	
2	Coarse centering adjustment	Tilt base centering adjustment screw	• Oscilloscope • STD-901 or STD-902 • MIX resistor 	CN120 X: ⑨ Pin (TRK ERR) Y: ①+② Pin (TRK SUM)	• Test mode TRK Servo Open Tilt Servo ON • Innermost track of STD-901 or STD-902 which does not come in contact with the mechanical stopper.	1. Move the slider until it does not come in contact with the mechanical stopper at the slider position indication S-IN. 2. Observe TRK ERR (Xch) and TRK SUM (Ych) at the X-Y mode during TRK Servo Open. 3. Turn the centering adjustment screw until the Lissajous figure is horizontal.	
3	FCS balance adjustment (1) TRK ERR MAX	VR605	• Oscilloscope • STD-901 or STD-902	CN120 ⑨ Pin (TRK ERR)	• Test mode TRK Servo Open Tilt Servo ON • Inner track of STD-901 or STD-902	1. Observe TRK ERR at CH1 of the oscilloscope during TRK Servo Open. 2. Adjust VR605 until the amplitude of the waveform reaches its maximum.	
4	FCS balance adjustment (2) RF MAX	VR606	• Oscilloscope • STD-901 or STD-902	CN120 ③ Pin (RF)	• Test mode TRK Servo Close Tilt Servo ON • Inner track of STD-901 or STD-902	1. Close the TRK Servo and observe RF at CH1 of the oscilloscope. 2. Adjust VR606 until the amplitude of the waveform reaches its maximum and the envelope is very clear.	
5	Tangential direction angle adjustment	Tilt base TAN adjustment screw	• Oscilloscope • STD-901 or STD-902	CN120 ③ Pin (RF)	• Test mode TRK Servo Close Tilt Servo ON • Inner track of STD-901 or STD-902	1. Observe RF at CH1 of the oscilloscope during TRK Servo Close. 2. Adjust the TAN adjustment screw until the amplitude of the waveform reaches its maximum and the envelope is very clear.	
6	Fine centering adjustment	Tilt base Centering adjustment screw	• Oscilloscope • STD-901 or STD-902	CN120 X: ⑨ Pin (TRK ERR) Y: ①+② Pin (TRK SUM)	• Test mode TRK Servo Open Tilt Servo ON • Innermost track of STD-901 or STD-902 which does not come in contact with the mechanical stopper.	Perform fine centering adjustment by following the same procedure as in "(2) Coarse centering adjustment".	
7	Crosstalk check and Tilt offset adjustment	VR607	• TV monitor • GGV1003	Crosstalk check screen	• Test mode TRK Servo Close Tilt Servo ON • GGV1003 #115 STILL	1. Search for address 115 of GGV1003 and still the address. 2. Check the crosstalk . If the crosstalk is pronounced, adjust VR607 until the crosstalk is not noticeable.	
	When the crosstalk is still noticeable in spite of the adjustment in (7), use a hexagonal wrench driver (straight type, size: 3 mm) to adjust the TAN adjustment screw on the bottom side of the player through the GGV1003 #115 STILL screen. Afterwards, perform the adjustment procedures from (6).						

	Adjustment name	Adjustment point	Measuring equipment and jigs	Measurement point	Player condition	Adjustment procedure	Waveform and connection diagram
8	FCS Servo loop gain adjustment	VR604	• Oscilloscope • GGV1003 • AF Oscillator • Resistor (47kΩ)	CN120 X: ⑦ Pin (FCS IN) Y: ⑥ Pin (FCS ERR)	• Test mode TRK Servo Close Tilt Servo ON • GGV1003 #15,000 STILL	1. Search for address 15,000 of GGV1003 and still the address. 2. Xch: Connect the resistor (47kΩ) to the channel and connect to FCS IN. Ych: Connect to FCS ERR. 3. Connect the AF oscillator between Xch and the 47kΩ resistor, and adjust VR604 until the Lissajous figure is symmetrical.	
9	TRK Servo loop gain adjustment	VR601	• Oscilloscope • GGV1003 • AF Oscillator • Resistor (47kΩ)	CN120 X: ⑩ Pin (TRK IN) Y: ⑨ Pin (TRK ERR)	• Test mode Stop mode or TRK Servo Close Tilt Servo ON • GGV1003 #15,000 STILL	1. Xch: Connect the 47kΩ resistor to channel and connect to TRK IN. Ych: Connect to TRK ERR. 2. Connect the AF oscillator between Xch and the 47kΩ resistor and note the tilt angle against the horizon with the disc in the stopped state. 3. Search for address 15,000 of GGV1003 and still the address. 4. Set the disc PLAY mode (TRK servo closed, TILT on). Adjust VR603 so that the tilt angle of the waveform will be the same as the tilt angle noted in step 3.	
10	RF level adjustment	VR601	• Oscilloscope • GGV1003	CN120 ③ Pin (RF)	• Test mode TRK Servo Close Tilt Servo ON • GGV1003 #15,000 STILL	1. Search for address 15,000 of GGV1003 and still the address. Observe RF at CH1 of the oscilloscope. 2. Adjust VR601 until the RF amplitude is 300mV ± 50mVp-p.	
11	Synchronizing signal generator clock adjustment	VC401	• Frequency counter	R558 lead wire (No connection side)	• Power ON • Stop mode	Adjust clock frequency (17.734475MHz) ± 100Hz.	
12	REF-H adjustment	VC901	• Frequency counter	R667 lead wire (IC601 (PM3002) ⑧ Pin side)	• Power ON • Stop mode	Adjust FCS (3.5546875 MHz) ± 25Hz.	
13	VCO center frequency adjustment	VR481	• Oscilloscope • GGV1007	CH1: C405 lead wire CH2: C499 lead wire	• Normal mode • GGV1007 #15,000 STILL	Place a trigger in CH1 and adjust until the center of the CH2 video signal jitter is 75 μsec (1H + 11 μsec) ± 2 μsec compared to the CH1 video signal.	
14	Video level adjustment	VR482	• TV monitor • Oscilloscope • GGV1007	Video output terminal	• Normal mode • GGV1007 #5,251 to #6,000 PLAY	Connect a 75Ω resistor to the VIDEO output terminal (possibly by connecting to the monitor) and adjust until the sync tip to 100% white level is 1Vp-p ± 5% at the white (100%) signal.	

	Adjustment name	Adjustment point	Measuring equipment and jigs	Measurement point	Player condition	Adjustment procedure	Waveform and connection diagram
15	1H DLY video level adjustment	VR441	• Oscilloscope • GGV1007	CH1: C443 lead wire CH2: C445 lead wire	• Normal mode • GGV1007 #5,300 STILL	Adjust until the sync tip to 100% white level at the white (100%) signal is the same as in CH1 and CH2.	
16	VPS error level adjustment	VR521	• TV monitor • GGV1007	TV monitor	• Normal mode • GGV1007 #6,001 to #6,750 PLAY (Magenta screen)	Adjust until the color irregularity on the magenta screen is minimized.	
17	MOD video level adjustment	VR102	• Oscilloscope • GGV1007	CH1: C118 lead wire CH2: C122 lead wire	• Normal mode • GGV1007 #5,300 STILL	Adjust until the sync tip to 100% white level at the white (100%) signal is the same as in CH1 and CH2.	
18	1H delay sub carrier adjustment	VR101	• Oscilloscope • GGV1007	CH1: C118 lead wire CH2: C122 lead wire	• Normal mode • GGV1007 #5,100 STILL	Adjust until the chroma signal level at the magenta signal is the same as in CH1 and CH2.	

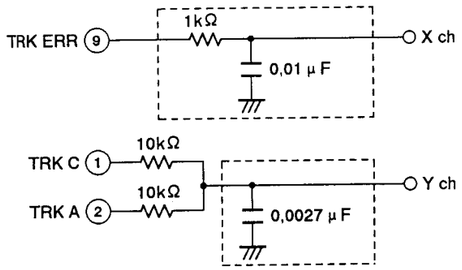
5. REGLAGES

5.1 PREPARATIFS

● Instruments Pour Reglage

- Disque d'essai pour CD (STD - 901 ou STD - 902)
- Disque d'essai pour LD (GGV1003 ou GGV1007)
- (−) Tournevis à tête plate (taille moyenne)
- (−) Tournevis à tête plate (petit)
- Clé hexagonale (type droit, taille: 3mm)
- Résistances (10kΩ × 2, 47 kΩ)
- Oscilloscope à double traces (avec retard)
- Oscillateur audiofréquence (AF)
- Compteur de fréquence
- Moniteur TV
- Filtre passe-bas

Utiliser les filtres passe-bas ci - dessous pour le réglage approximatif de centrage 2 et le réglage fin de centrage 6 si la forme d'onde du S/B est difficile à observer.



● Ensemble de Rack Pour le Reglage de Centrage

La position S - IN (la position où la butée de mécanisme n'est pas cognée) du rack pour le réglage de centrage est indiquée ci - dessous.

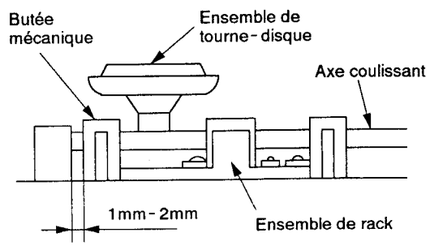


Fig. 1 Vue de la côté droite

● Points de Regrage

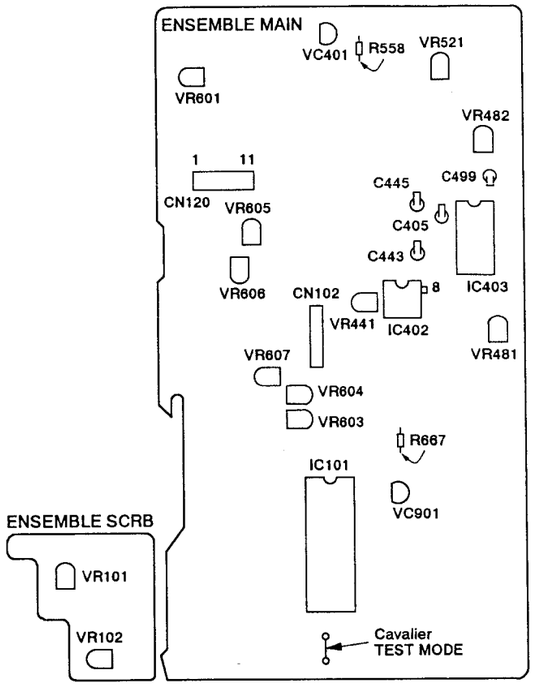
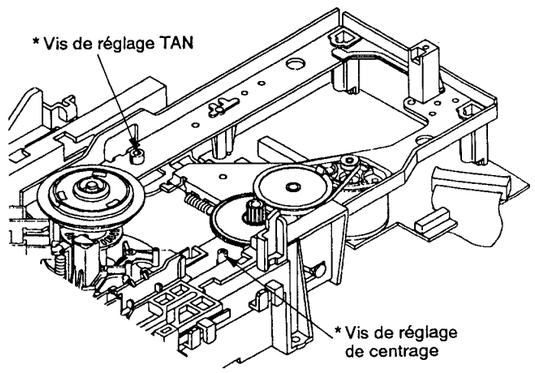


Fig. 2 Ensembles MAIN et SCRB



* : Ne pas tourner les vis de réglage TAN et de centrage au-delà de la gamme de réglage, c'est-à-dire, ± 90° du centre.

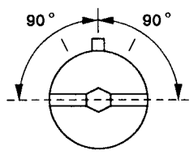


Fig. 3 Base TILT

● Mode D'essai

1) Lancement du mode d'essai
   1. Après la mise en marche de l'appareil, connecter le cavalier du mode d'essai (Fig. 2) à GND pendant environ une seconde.
   2. Après avoir confirmé que l'affichage FL est allumé à fond, débrancher le cavalier du mode d'essai de GND.

2) Annulation du mode d'essai
   1. Mettre l'appareil hors tension.

● Fonction des touches en mode d'essai

Etat de lecteur	Touche à déclencher	Fonction	Remarques
Plateau ouvert	⏮/⏭ SKIP (Se reporter à la Remarque 1.)	⏮: Déplace le plateau à la direction de fermture et élève le tourne-dique pendant que la touche est enfoncée. ⏭: Déplace le plateau à la direction de ouverture et baisse le tourne-disque pendant que la touche est enfoncée.	
Plateau ouvert	▶ Play	Verrouille.	
Verrouillé	▶ Play	Tourner le disque par la commande TRK SERVO OPEN.	TRK-OFF
Asservissement TRK ouvert	▶ Play	Asservissement TRK fermé.	TRK-ON
TILT en neutre	+MULTI-SPEED	Asservissement TILT fermé.	T-□:ON
TILT ON	-MULTI-SPEED	TILT en neutre	T-□:N
TILT en neutre ou ON	⏮/⏭ SKIP	En plaçant l'asservissement TILT sur OFF, il est possible de mouvoir TILT.	T-1 à T-E
Verrouillé	◀◀/▶▶ SCAN	Il est possible de faire le coulisseau déplacer.	S-LD S-CDV S-CD S-IN
Lecture	❙❙PAUSE	Arrêt sur image	
Lecture	■ STOP	Arrête	
Arrêt	▲ OPEN	Ouvrir	
Lecture	+10 ⇩ 0 à 9 ⇩ ▶ PLAY	Placer sur le mode entrée de recherche d'adresse d'amorçage. Désigner l'adresse d'amorçage à rechercher avec les touches 0 à 9. Appuyer sur la touche CLEAR C si l'adresse désignée est incorrecte. L'appareil commence à rechercher l'adresse désignée quand la touche PLAY est appuyée.	

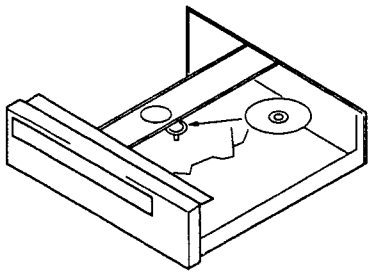
Remarque 1: Appuyer sur les touche SKIP (⏮/⏭) après que le plateau est placé en mode ouverture par la touche OPEN (▲). En état ouverture de plateau, une poussée sur la touche PLAY (▶) rend l'appareil en état d'inclinaison et les touches SKIP ne fonctionnent pas correctement.

• Fonctionnement du Lecteur en Mode D'essai

Manipuler le lecteur en choisissant le mode d'essai avec les touches du lecteur ou celles de la télécommande.

• LECTURE DE CD

① Placer le disque CD sur le tourne - disque.



② Appuyer une fois sur la touche PLAY (▶).
(Une paire d'engrenage commence à mouvoir.)

③ Enfoncer la came à plaque (Fig. 4) dans la direction de la flèche, et attendre que le disque CD soit verrouillé.

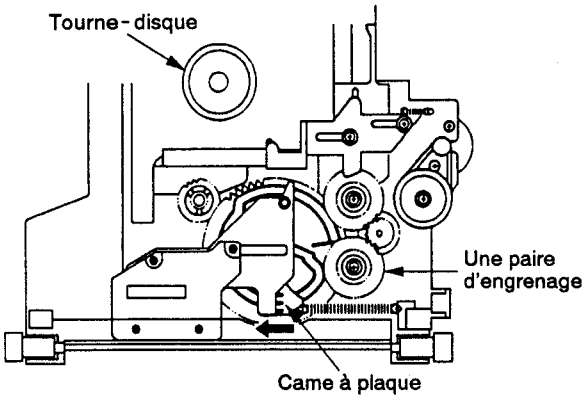
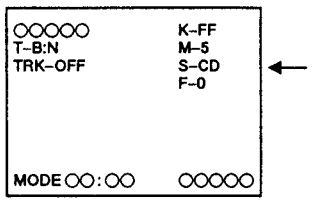


Fig. 4

④ Appuyer sur la touche ◀◀ ou ▶▶ pour faire apparaître "S - CD" sur l'écran du moniteur TV.

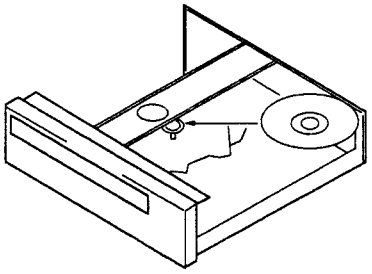


Affichage sur le moniteur TV

⑤ Appuyer deux fois sur la touche PLAY (▶). Le disque sera reproduit normalement.

• LECTURE DE LD

① Placer le disque LD sur le tourne - disque.

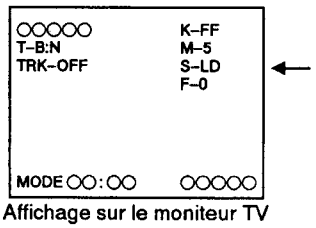


② Appuyer une fois sur la touche PLAY (▶) .
(Une paire d'engrenage commence à mouvoir.)

③ Appuyer sur la touche SKIP REV (|◀◀) tout en appuyant sur la came à plaque (Fig. 4) dans la direction de la flèche pour faire élever le tourne - disque (section moteur de broche). Elever le tourne - disque de sorte que le disque LD peut être placé facilement sur le tourne - disque.
Si le tourne - disque est trop élevé, l'abaisser avec la touche SKP FWD (▶▶|) .

④ Placer le disque LD sur le tourne - disque et appuyer une fois sur la touche PLAY (▶) pour verrouiller le disque.

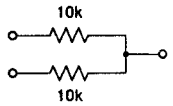
⑤ Appuyer sur la touche ◀◀ ou ▶▶ pour faire apparaître "S - LD" sur l'écran du moniteur TV.

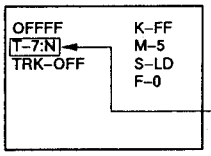
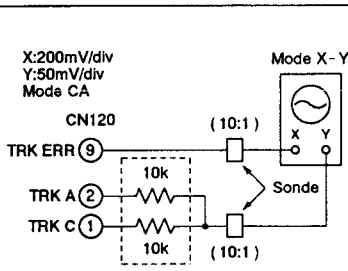
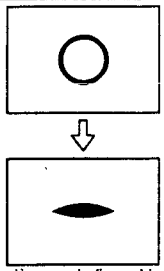
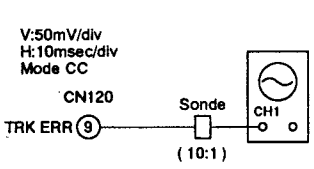
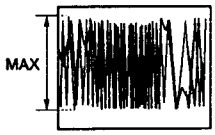
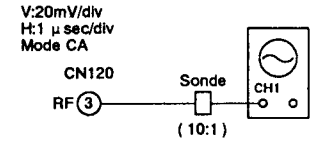
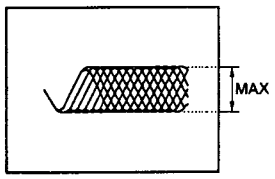
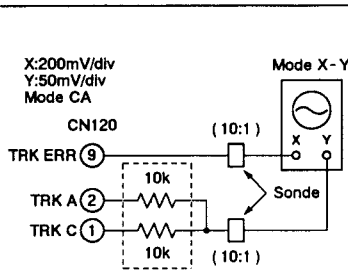
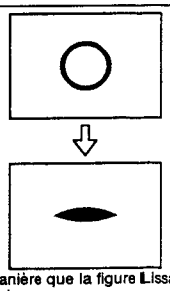
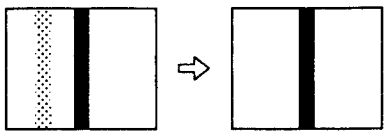
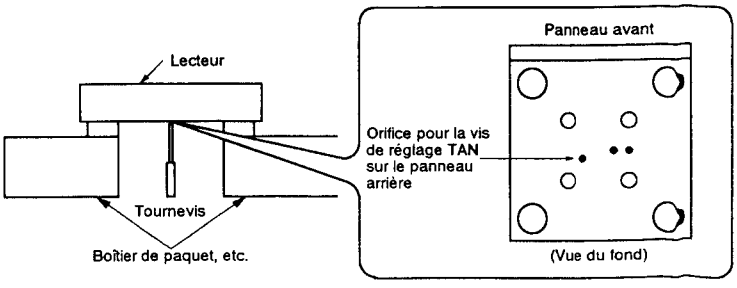


Affichage sur le moniteur TV

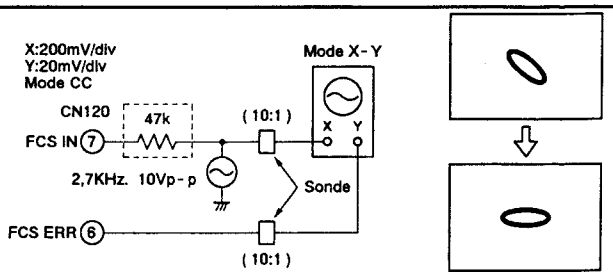
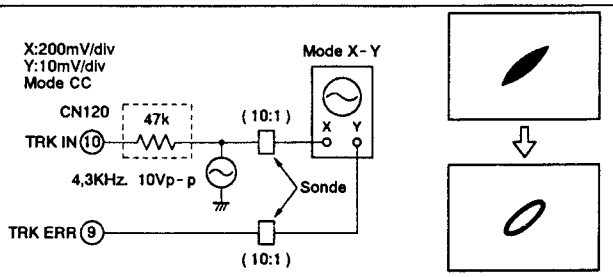
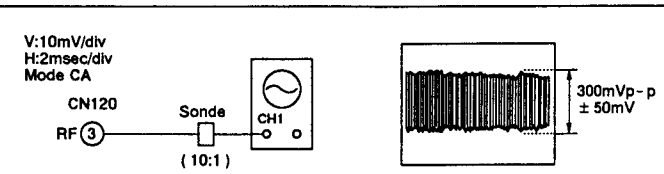
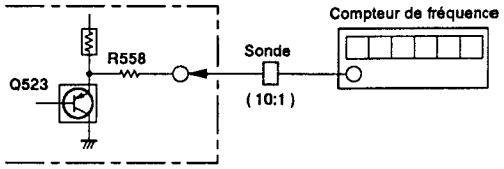
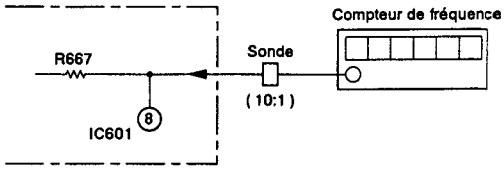
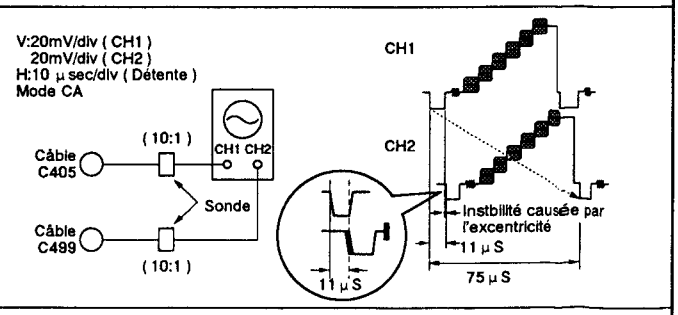
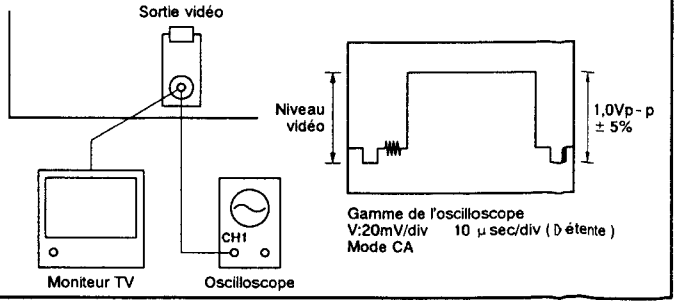
⑥ Appuyer deux fois sur la touche PLAY (▶). Le disque sera reproduit normalement.

5.2 SOMMAIRE DES REGLAGE

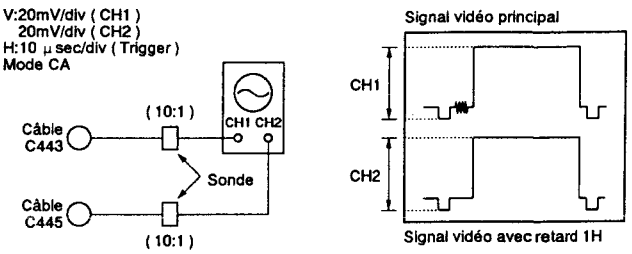
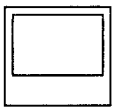
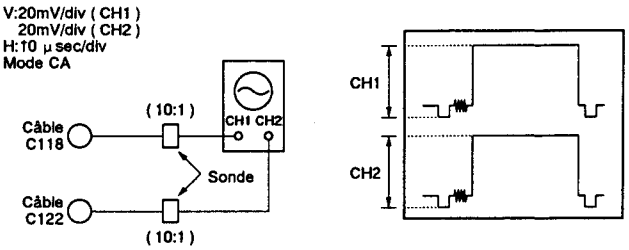
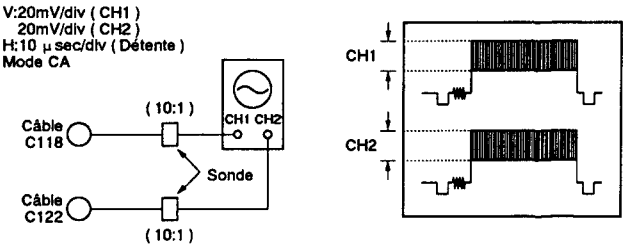
	Réglage	Point de réglage	Equipement de mesure et calibre	Point de mesure	Etat du lecteur
1	Vérification et réglage de correction d'inclinaison	VR607	• Moniteur TV	Indication d'inclinaison sur l'écran du mode d'essai	• Alimentation sur ON • Mode d'essai • Pas de disque installé
2	Réglage approximatif de centrage	Vis de réglage de centrage sur la base d'inclinaison	• Oscilloscope • STD-901 ou STD-902 • Resistance MIX 	CN120 X: Broche ⑨ (TRK ERR) Y: Broche ①+② (TRK SUM)	• Mode d'essai Asservissement d'alignement ouvert Asservissement d'inclinaison ON • La piste la plus intérieure de STD-901 ou STD-902, qui n'est pas en contacte avec la butée mécanique.
3	Réglage de balance de mise au point (1) TRK ERR MAX	VR605	• Oscilloscope • STD-901 ou STD-902	CN120 Broche ⑨ (TRK ERR)	• Mode d'essai Asservissement d'alignement ouvert Asservissement d'inclinaison ON • La piste intérieure de STD-901 ou STD-902
4	Réglage de balance de mise au point (2) RF MAX	VR606	• Oscilloscope • STD-901 ou STD-902	CN120 Broche ③ (RF)	• Mode d'essai Asservissement d'alignement fermé Asservissement d'inclinaison ON •La piste intérieure de STD-901 ou STD-902
5	Réglage d'angle de direction tangentielle	Vis de réglage TAN sur la base d'inclinaison	• Oscilloscope • STD-901 ou STD-902	CN120 Broche ③ (RF)	• Mode d'essai Asservissement d'alignement fermé Asservissement d'inclinaison ON •La piste intérieure de STD-901 ou STD-902
6	Réglage fin de centrage	Vis de réglage de centrage sur la base d'inclinaison	• Oscilloscope • STD-901 ou STD-902	CN120 X: Broche ⑨ (TRK ERR) Y: Broche ①+② (TRK SUM)	• Mode d'essai Asservissement d'alignement ouvert Asservissement d'inclinaison ON • La piste la plus intérieure de STD-901 ou STD-902, qui n'est pas en contacte avec la butée mécanique.
7	Vérification de diaphonie et réglage de correction d'inclinaison	VR607	• Moniteur TV • GGV1003	Ecran de vérification de diaphonie	• Mode d'essai Asservissement d'alignement fermé Asservissement d'inclinaison ON • GGV1003 #115 STILL
	Si la diaphonie est encore apparente après le réglage indiqué dans (7), régler la vis de réglage TAN situé sur le fond de la lecteur à l'aide de la clé hexagonale (type droit, taille: 3 mm) en observant l'arrêt sur image du GGV1003#115 sur l'écran. Ensuite, procéde au réglage dans (6).				

Procédure de réglage	Forme d'onde et schéma de connexion
1. Vérifier que l'indication d'inclinaison sur l'écran du mode d'essai est entre T-6 et T-8. 2. Si l'indication d'inclinaison n'est pas entre T-6 et T-8, Régler VR607 jusqu'à ce que l'indication soit entre T-6 et T-8.	 Régler VR607 tout en ovservant la figure sur l'écran du mode d'essai.
1. Faire glisser le coulisseau pour qu'il n'est pas en contacte avec la butée mécanique située sur la position de l'indication S-IN pour le clisseau. 2. Observer TRK ERR (Xch) et TRK SUM (Ych) en mode X-Y avec l'asservissement TRK ouvert. 3. Tourner la vis de réglage de centrage jusqu'à ce que la figure de Lissajous soit horizontale.	  Régler de manière que la figure Lissajous soit horizontale.
1. Observer TRK ERR du CH1 sur l'osccilloscope avec l'asservissement TRK ouvert. 2. Régler VR605 jusqu'à ce que l'amplitude de la forme d'onde soit maximum.	  Régler de manière que l'amplitude soit maximum.
1. Fermer l'asservissement TRK et observer RF du CH1 sur l'oscilloscope. 2. Régler VR606 jusqu'à ce que l'amplitude de la forme d'onde soit maximum et que l'enveloppe soit très claire.	  Régler de manière que l'amplitude soit maximum et que l'enveloppe soit très claire.
1. Observer RF du CH1 sur l'osccilloscope avec l'asservissement TRK fermé. 2. Régler la vis de réglage TAN jusqu'à ce que l'amplitude de la forme d'onde soit maximum et que l'enveloppe soit très claire.	
Effectuer les réglage fin de centrage en suivant la même procédure que dans "(2) Réglage approximatif de centrage".	  Régler de manière que la figure Lissajous soit horizontale.
1. Rechercher l'adresse 115 de GGV1003 et geler l'image. 2. Vérifier la diaphonie. Si la diaphonie apparaît, régler VR607 jusqu'à ce que la diaphonie soit peut apparent.	 Si la diaphonie apparaît, régler jusqu'à ce que la diaphonie soit peut apparente.
	

	Réglage	Point de réglage	Equipement de mesure et calibre	Point de mesure	Etat du lecteur
8	Réglage de gain de boucle d'asservissement de mise au point	VR604	• Oscilloscope • GGV1003 • Oscillateur AF • Resistance (47kΩ)	CN120 X: Broche ⑦ (FCS IN) Y: Broche ⑥ (FCS ERR)	• Mode d'essai Asservissement TRK fermé Asservissement d'inclinaison ON • GGV1003 #15,000 STILL
9	Réglage de gain de boucle d'asservissement d'alignement	VR601	• Oscilloscope • GGV1003 • Oscillateur AF • Resistance (47kΩ)	CN120 X: Broche ⑩ (TRK IN) Y: Broche ⑨ (TRK ERR)	• Mode d'essai Mode arrêt ou l'asservissement TRK fermé Asservissement d'inclinaison ON • GGV1003 #15,000 STILL
10	Réglage de niveau RF	VR601	• Oscilloscope • GGV1003	CN120 Broche ③ (RF)	• Mode d'essai Asservissement TRK fermé Asservissement d'inclinaison ON • GGV1003 #15,000 STILL
11	Réglage de rhytmeur de générateur synchronisation	VC401	• Compteur de fréquence	Câble R558 (Pas de côté de connexion)	• Alimentation ON • Mode arrêt
12	Réglage de REF-H	VC901	• Compteur de fréquence	Câble R667 (IC601 (PM3002), côté de la broche ⑧)	• Alimentation ON • Mode arrêt
13	Réglage de fréquence central VCO	VR481	• Oscilloscope • GGV1007	CH1: Câble C405 CH2: Câble C499	• Mode normal • GGV1007 #15,000 STILL
14	Réglage de niveau vidéo	VR482	• Moniteur TV • Oscilloscope • GGV1007	Borne de sortie vidéo	• Mode normal • GGV1007 #5,251 à #6,000 PLAY

Procédure de réglage	Forme d'onde et schéma de connexion
1. Rechercher l'adresse 15,000 de GGV1003 et geler l'image. 2. Xch: Connecter la résistance (47 kΩ) au canal et FCS IN. Ych: Connecter à FCS ERR. 3. Connecter l'oscillateur AF entre Xch et la résistance de 47 kΩ , et régler VR604 pour que la figure Lissajous soit symmétrique.	 Régler de façon que la figure Lissajous soit symmétrique.
1. Xch: Connecter la résistance de 47 kΩ au canal et TRK IN. Ych: Connecter à TRK ERR. 2. Connecter l'oscillateur AF entre Xch et la résistance de 47 kΩ . Noter l'angle d'inclinaison par rapport à la ligne horizontal avec le disque en mode arrêt. 3. Rechercher l'adresse 15,000 de GGV1003 et geler l'image. 4. Placer en mode de lecture (avec l'asservissement TRK fermé, l'inclinaison ON). Régler VR603 de pour que l'angle d'inclinaison de la forme d'onde soit la même que l'angle notée à l'étape 3.	 Régler de façon que la figure Lissajous soit symmétrique.
1. Rechercher l'adresse 15,000 de GGV1003 et geler l'image. Observer RF du CH1 sur l'oscilloscope. 2. Régler VR601 pour que l'amplitude RF soit 300mV ± 50mVc-c.	
Régler la fréquence de l'horloge (17,734475 MHz) ± 100Hz.	
Régler la mise au point sur 3,5546875 MHz ± 25Hz.	
Placer la détente dans le CH1 et régler de façon que le centre d'instabilité (jitter) de signal vidéo du CH2 soit 75 μsec (1H + 11 μsec) ± 2 μsec par rapport au signal vidéo du CH2.	
Connecter la résistance de 75Ω à la borne de sortie vidéo (peut-être en connectant au moniteur) et régler de façon que la pointe de synchronization du niveau du signal blanc de 100% soit 1Vc-c ± 5%.	

	Réglage	Point de réglage	Equipement de mesure et calibre	Point de mesure	Etat du lecteur
15	Réglage du niveau vidéo avec retard 1H	VR441	• Oscilloscope • GGV1007	CH1: Câble C443 CH2: Câble C445	• Mode normal • GGV1007 #5,300 STILL
16	Réglage du niveau d'erreur VPS	VR521	• Moniteur TV • GGV1007	Moniteur TV	• Mode normal • GGV1007 #6,100 à #6,750 PLAY (Ecran magenta)
17	Réglage du niveau vidéo MOD	VR102	• Oscilloscope • GGV1007	CH1: Câble C118 CH2: Câble C122	• Mode normal • GGV1007 #5,300 STILL
18	Réglage du sous-porteuse avec retard 1H	VR101	• Oscilloscope • GGV1007	CH1: Câble C118 CH2: Câble C122	• Mode normal • GGV1007 #5,100 STILL

Procédure de réglage	Forme d'onde et schéma de connexion
Régler de façon que les niveaux de la pointe de synchronization du niveau du signal blanc (100%) pour les CH1 et CH2 soient les mêmes.	
Régler de façon que lirrégularité sur l'écran magenta soit minimisée.	
Régler de façon que les niveaux de la pointe de synchronization du signal de blanc (100%) pour les CH1 et CH2 soient les mêmes.	
Régler de façon que les niveaux du signal chroma du signal magenta pour les CH1 et CH2 soient les mêmes.	

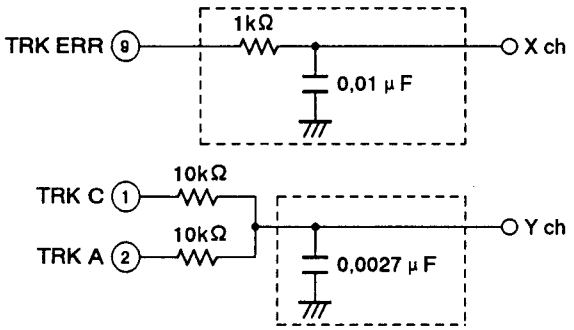
5. AJUSTES

5.1 PRELIMINARIOS

• Instrumentos de Los Ajustes

- Disco de prueba de CD (STD - 901 o STD - 902)
- Disco de prueba de LD (GGV1003 o GGV1007)
- Destornillador con la cabeza de (-) (medio)
- Destornillador con la cabeza de (-) (pequeño)
- Llave inglesa hexagonal (tipo recto, tamaño: 3mm)
- Resistores (10kΩ × 2, 47kΩ)
- Osciloscopio de traza doble (con retraso)
- Oscilador de AF
- Contador de frecuencia
- Monitor de TV
- Filtro de paso bajo

Use los filtros de paso bajo como se ven abajo en el procedimiento de ajuste aproximado del centrado 2., y en el procedimiento de ajuste fino del centrado 6., cuando es difícil observar la forma de onda del señal y ruido.



• Montaje de Armario Durante el Ajuste del Centrado

La posición de S - IN (sin golpear el taponador) del montaje de armario durante el ajuste del centrado se ilustra abajo.

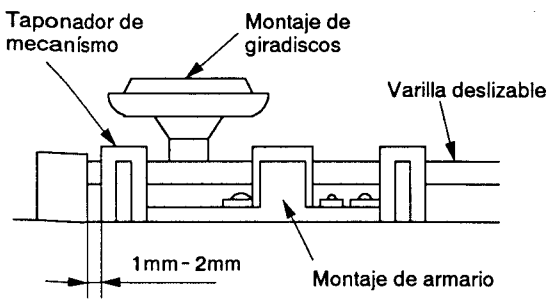


Fig. 1 Vista desde el lado derecho

• Puntos de Ajuste

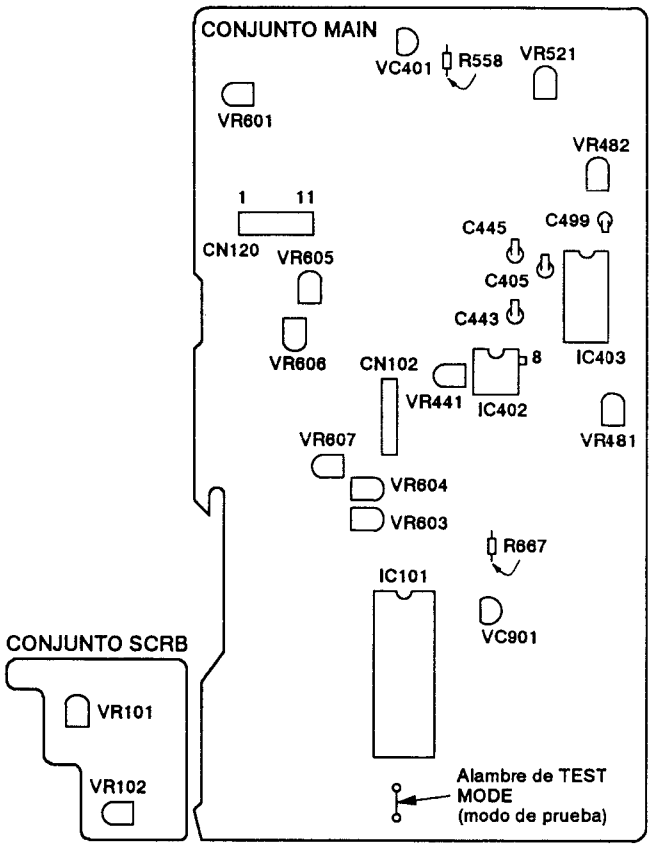
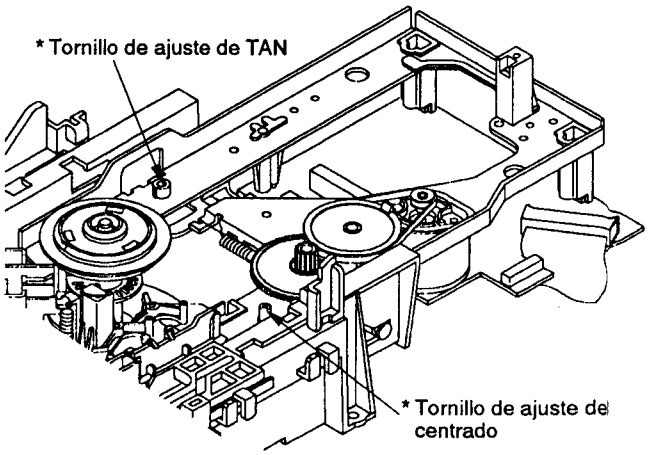


Fig. 2 Sección de los conjuntos MAIN y SCRB



* : Porque la gama de ajuste de los tornillos de TAN y del centrado es solamente ± 90 grados. No haga girar los tornillos más alla de esta gama desde el centro.

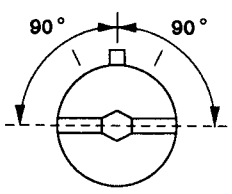


Fig. 3 Sección de la base de inclinación

• Modo de Prueba

1) Para activar el modo de prueba
   1. Mientras que se alimenta, conecte el alambre (Figura 2) a GND por aproximadamente 1 segundo.
   2. Después de comprobar que la pantalla está completamente encendida, desconecte el alambre desde GND.
2) Para cancelar el modo de prueba
   1. Desconecte la alimentación.

• Operaciones de las teclas en el modo de prueba

Condición del reproductor	Operación de las teclas	Funcionamiento	Notas
La bandeja abierta	⏮/⏭ SKIP (Refiérase a nota 1.)	⏮: Mueve la bandeja en la dirección cerrada y levanta el giradiscos cuando está bajado. ⏭: Mueve la bandeja en la dirección abierta y baja el giradisco cuando está bajado.	
La bandeja abierta	▶ Avance	Sujetador	
Sujetador	▶ Avance	Haga girar el disco a través del servo TRK Abierto	TRK-OFF
El servo de TRK abierto	▶ Avance	Servo TRK Cerrado	TRK-ON
La inclinación neutral	+MULTI-SPEED	Servo TILT Cerrado	T-□:ON
TILT ON	-MULTI-SPEED	Neutral TILT	T-□:N
TILT Neutral u ON	⏮/⏭ SKIP	Ponga el servo TILT en OFF, y se moverá TILT.	T-1 a T-E
Sujetador	◀◀/▶▶ SCAN	Puede enforzar el sujetador a mover.	S-LD S-CDV S-CD S-IN
Avance	❙❙ PAUSE	Pausa	
Avance	■ STOP	Parada	
Parada	⏏ OPEN	Abierto	
Avance	[+10] ⇩ [0] a [9] ⇩ [▶ PLAY]	Ponga en el modo de entrada de domicilio de SEARCH. Indique el alambre de domicilio de SEARCH con las teclas 0 a 9. Presione la tecla [C] CLEAR si es incorrecto el domicilio designado. Busca el domicilio designado al presionar la tecla PLAY.	

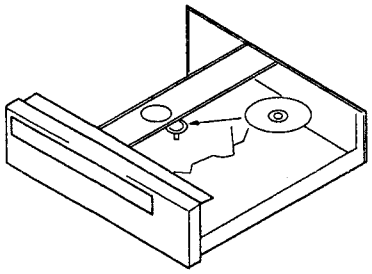
Nota 1: Presione las teclas SKIP (⏮/⏭) después de que la bandeja esté en el estado abierto por presionando la tecla OPEN (⏏). En el estado abierto de la bandeja, si se presiona la tecla PLAY (▶) se cambia en el estado del control de TILT y las teclas SKIP no funcionan correctamente.

• Operacion del Reproductor en el Modo de Prueba

Después de seleccionar el modo de prueba, maneje las teclas sobre el reproductor o sobre la unidad de control remoto.

• REPRODUCCION DE UN DISCO COMPACTO

① Ponga un disco compacto sobre el giradiscos.



② Presione la tecla PLAY (▶)una vez.
(El piñon gemelo se pone en marcha.)

③ Empuje el plato de leva en la dirección de la flecha y espere hasta que se enganche el disco compacto.

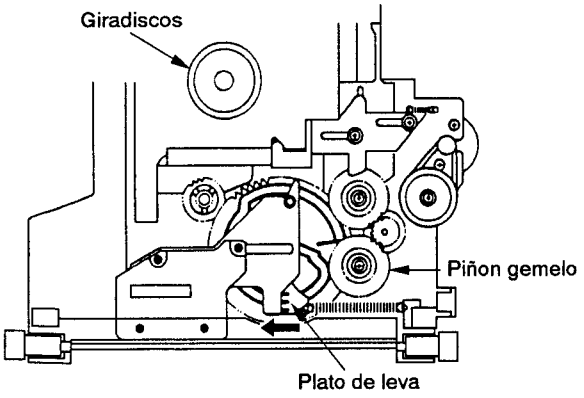
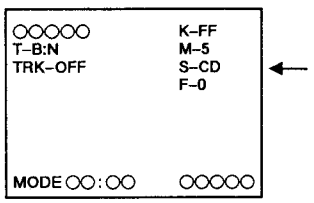


Fig. 4

④ Presione la tecla ◀◀ o ▶▶ hasta que se muestre la visualización "S - CD" en la pantalla.

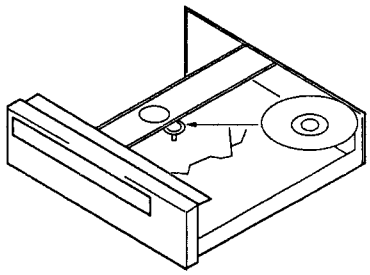
⑤ Presione la tecla PLAY (▶) y el disco se reproducirá normalmente.



Visualización en la pantalla de TV

• REPRODUCCION DE UN DISCO LASERICO

① Ponga un disco lasérico sobre el giradiscos.

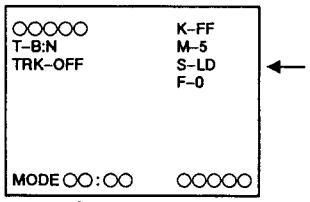


② Presione la tecla PLAY (▶) una vez.
(El piñon gemelo se pone en marcha.)

③ Presione la tecla SKIP REV (|◀◀) para levantar el giradiscos (sección del motor de eje) mientras que presiona el plato de leva (Fig. 4) en la dirección de la flecha. Levántelo en la posición en la que se pone el disco fácilmente sobre el giradiscos.
Si se pone el giradiscos demásiado arriba, rebájelo con la tecla SKIP FWD (▶▶|).

④ Ponga el disco lasérico sobre el giradiscos y presione la tecla PLAY (▶) una vez para enganchar el disco.

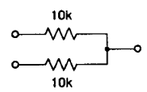
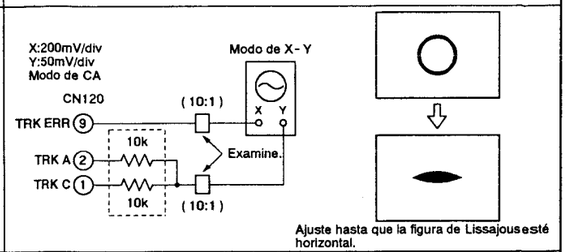
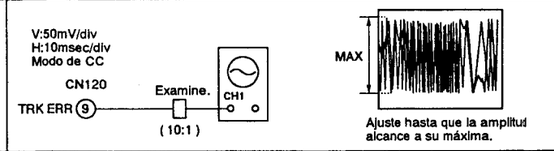
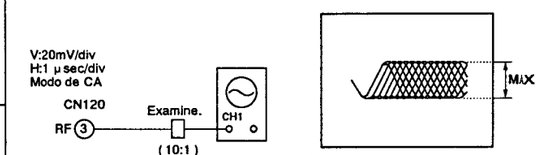
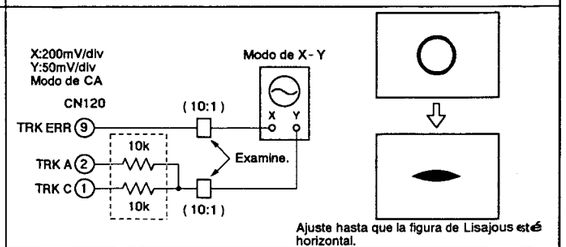
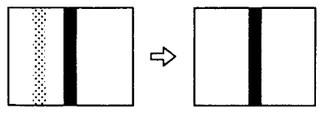
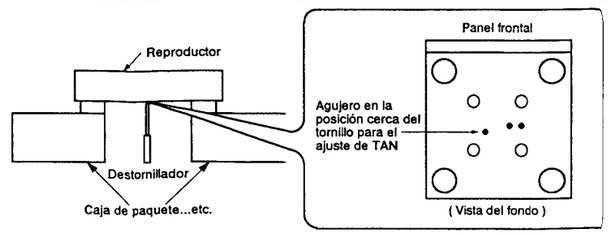
⑤ Presione la tecla ◀◀ o ▶▶ hasta que la visualización "S - LD" se muestre en la pantalla.

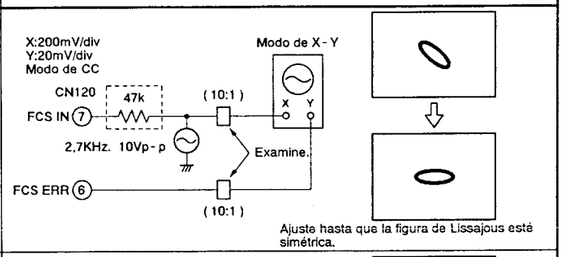
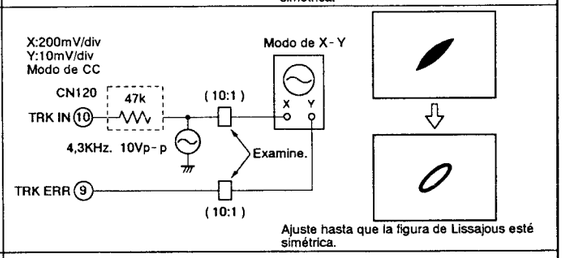
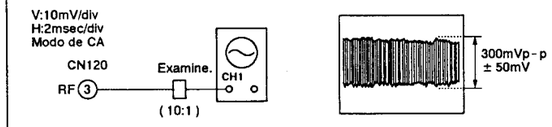
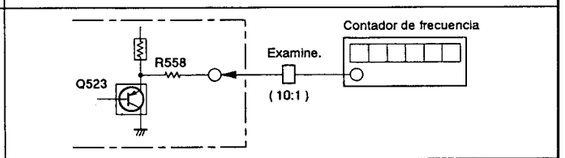
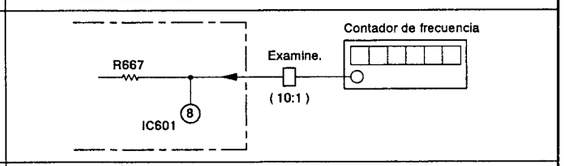
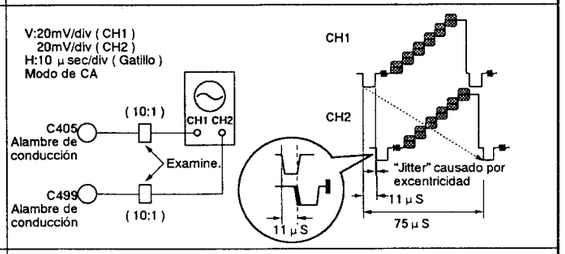
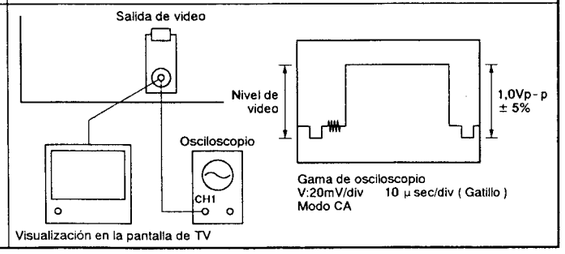


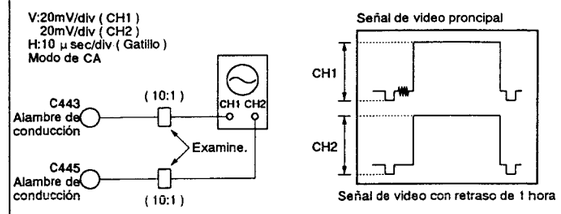
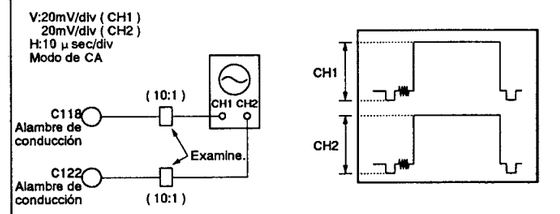
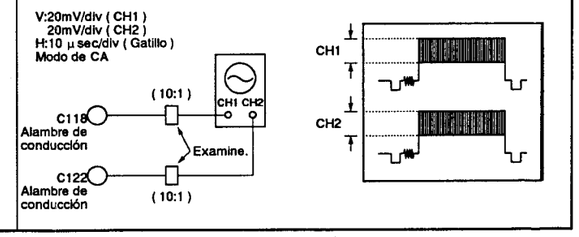
Visualización en la pantalla de TV

⑥ Presione la tecla PLAY (▶) dos veces, y el disco se reproducirá normalmente.

5.2 TABLA DE LOS AJUSTES

	Nombre de ajuste	Punto de ajuste	Equipo y instrumento de medida	Punto de medida	Estado del giradiscos	Procedimiento de ajuste	Forma de onda y diagrama de conexión
1	Comprobación y ajuste de desviación de inclinación	VR607	• Monitor de TV	Indicación de inclinación en la pantalla del modo de prueba	• Alimentación ON • Modo de prueba • No se instala el disco.	1. Compruebe que la indicación sobre la pantalla del modo de prueba está en T-6 a T-8. 2. Si la indicación no se quede en T-6 a T-8, ajuste VR607 hasta que la indicación de inclinación alcance a T-6 a T-8.	
2	Ajuste aproximado del centrado	Tornillo de ajuste del centrado de base de inclinación	• Osciloscopio • STD-901 o STD-902 • Resistor de MIX 	CN120 X: ⑨ Clavija (TRK ERR) Y: ①+② Clavija (TRK SUM)	• Modo de comprobación Servo de TRK: Abierto Servo de inclinación: ON • Pista más interior de STD-901 o STD-902 que no se toca al taponador	1. Mueva el deslizador hasta que no toque al taponador mecánico en la posición indicada como S-IN. 2. Observe TRK ERR (canal X) y TRK SUM (canal Y) en el modo de X-Y mientras que está abierto el servo de TRK. 3. Haga girar el tornillo para el ajuste del centrado hasta que la figura de Lissajous esté horizontal.	
3	Ajuste de equilibrio de foco (1) TRK ERR MAX	VR605	• Osciloscopio • STD-901 o STD-902	CN120 ⑨ Clavija (TRK ERR)	• Modo de prueba Servo de TRK: Abierto Servo de inclinación: ON • Pista más interior de STD-901 o STD-902	1. Observe TRK ERR en CH1 del osciloscopio mientras que está abierto el servo de TRK. 2. Ajuste VR605 hasta que la forma de onda de la amplitud alcance a su máxima.	
4	Ajuste de equilibrio de foco (2) RF MAX	VR606	• Osciloscopio • STD-901 o STD-902	CN120 ③ Clavija (RF)	• Modo de prueba Servo de TRK: Cerrado Servo de inclinación: ON • Pista más interior de STD-901 o STD-902	1. Cierre el servo de TRK y observe RF en CH1 del osciloscopio. 2. Ajuste VR606 hasta que la forma de onda de la amplitud alcance a su máxima y se quede muy clara la cubierta.	
5	Ajuste del ángulo del sentido tangencial	Tornillo de ajuste de TAN de la base de inclinación	• Osciloscopio • STD-901 o STD-902	CN120 ③ Clavija (RF)	• Modo de prueba Servo de TRK: Cerrado Servo de inclinación: ON • Pista más interior de STD-901 o STD-902	1. Observe RF en CH1 del osciloscopio mientras que está cerrado el servo de TRK. 2. Ajuste el tornillo para el ajuste de TAN hasta que la forma de onda de la amplitud alcance a su máxima y se quede muy clara la cubierta.	
6	Ajuste fino del centrado	Tornillo de ajuste del centrado de base de inclinación	• Osciloscopio • STD-901 o STD-902	CN120 X: ⑨ Clavija (TRK ERR) Y: ①+② Clavija (TRK SUM)	• Modo de prueba Servo de TRK: Abierto Servo de inclinación: ON • Pista más interior de STD-901 o STD-902 que no toca al taponador	Haga el ajuste fino del centrado seguiendo el procedimiento mismo que se explica en la sección "(2) Ajuste aproximado del centrado".	
7	Comprobación de diafonía y ajuste de desviación de inclinación	VR607	• Monitor de TV • GGV1003	Pantalla de comprobación de diafonía	• Modo de prueba Servo de TRK: Cerrado Servo de inclinación: ON • GGV1003 Número 115 STILL	1. Busque el domicilio 115 de GGV1003 y establézcalo. 2. Compruebe la diafonía. Si la disafonía está pronunciada, ajuste VR607 hasta que la diafonía no esté notable.	
	Cuando la diafonía todavía está notable aun después del ajuste en (7), use una llave inglesa hexagonal (tipo recto, tamaño: 3mm) para ajustar el tornillo para el ajuste de TAN situado en el fondo del reproductor observando la pantalla de GGV1003 número 115 STILL. Después, haga los procedimientos desde (6).						

	Nombre de ajuste	Punto de ajuste	Equipo y instrumento de medida	Punto de medida	Estado del giradiscos	Procedimiento de ajuste	Forma de onda y diagrama de conexión
8	Ajuste de la ganancia del bucle de servo de foco	VR604	• Osciloscopio • GGV1003 • Oscilador de AF • Resistor (47kΩ)	CN120 X: ⑦ Clavija (FCS IN) Y: ⑥ Clavija (FCS ERR)	• Modo de prueba Servo de TRK: Cerrado Servo de inclinación: ON • GGV1003 Número 15000 STILL	1. Busque el domicilio 15000 de GGV1003 y establézcalo. 2. Canal X: Conecte el resistor (47 kΩ) al canal y a FCS IN. Canal Y: Conecte a FCS ERR. 3. Conecte el oscilador AF entre el canal X y el resistor de 47 kΩ , y ajuste VR604 hasta que la figura de Lissajous esté simétrica.	 Ajuste hasta que la figura de Lissajous esté simétrica.
9	Ajuste de la ganancia del bucle de servo de seguimiento	VR601	• Osciloscopio • GGV1003 • Oscilador de AF • Resistor (47kΩ)	CN120 X: ⑩ Clavija (TRK IN) Y: ⑨ Clavija (TRK ERR)	• Modo de prueba Modo de parada o Servo de TRK: Cerrado Servo de inclinación: ON • GGV1003 Número 15000 STILL	1. Canal X: Conecte el resistor de 47 kΩ y a TRK IN. Canal Y: Conecte a TRK ERR. 2. Conecte el oscilador de AF entre el canal X y el resistor de 47 kΩ y anote el ángulo de inclinación hasta la línea horizontal en el estado de parada. 3. Busque el domicilio 15000 de GGV1003 y establézcalo. 4. Ponga en el modo de PLAY (Servo de TRK cerrado, y TILT ON.) Ajuste VR603 para que el ángulo de inclinación de la forma de onda esté mismo que el ángulo de inclinación anotado en el procedimiento 3.	 Ajuste hasta que la figura de Lissajous esté simétrica.
10	Ajuste del nivel de RF	VR601	• Osciloscopio • GGV1003	CN120 ③ Clavija (RF)	• Modo de prueba Servo de TRK: Cerrado Servo de inclinación: ON • GGV1003 Número 15000 STILL	1. Busque el domicilio 15000 de GGV1003 y establézcalo. Observe RF en CH1 del osciloscopio. 2. Ajuste VR601 hasta que la amplitud de RF esté 300 mV ± 50mVp-p.	
11	Ajuste del reloj degenerador para la señal sincrónica	VC401	• Contador de frecuencia	R558 Alambre de conducción (No el lado de conexión)	• Alimentación ON • Modo de parada	Ajuste la frecuencia del reloj (17.734475MHz) ± 100Hz.	
12	Ajuste de REF-H	VC901	• Contador de frecuencia	R667 Alambre de conducción (IC601 (PM3002) ⑧ Lado de clavija)	• Alimentación ON • Modo de parada	Ajuste FCS (3,5546875 MHz) ± 25 Hz.	
13	Ajuste de frecuencia central de VCO	VR481	• Osciloscopio • GGV1007	CH1: C405 Alambre de conducción CH2: C499 Alambre de conducción	• Modo normal • GGV1007 Número 15000 STILL	Ponga un gatillo en el canal 1 y ajuste hasta que el centro de la fluctuación de la señal del canal 2 esté 75 μ segundo (1H + 11 ± segundo) ± 2 μ segundo comparado con la señal de video del canal 1.	
14	Ajuste del nivel de video	VR482	• Monitor de TV • Osciloscopio • GGV1007	Terminal de la salida de video	• Modo normal • GGV1007 Números 5251 a 6000 PLAY	Conecte un resistor de 75 Ω al terminal de salida de VIDEO (posible por conectando al monitor) y ajuste hasta que la microplaqueta sincrónica al nivel blanco de 100 % esté 1 Vp-p 5 % a la señal blanca (100 %).	

	Nombre de ajuste	Punto de ajuste	Equipo y instrumento de medida	Punto de medida	Estado del giradiscos	Procedimiento de ajuste	Forma de onda y diagrama de conexión
15	Ajuste del nivel de video 1H DLY	VR441	• Osciloscopio • GGV1007	CH1: C443 Alambre de conducción CH2: C445 Alambre de conducción	• Modo normal • GGV1007 Número 5300 STILL	Ajuste hasta que la microplaqueta sincrónica al nivel blanco de 100 % en la señal blanca (100%) esté la misma que en CH1 y CH2.	
16	Ajuste del nivel de error de VPS	VR521	• Monitor de TV • GGV1007	Monitor de TV	• Modo normal • GGV1007 Números 6001 a 6750 PLAY (Pantalla majenta)	Ajuste hasta que la irregularidad en color en la pantalla majenta se disminuya.	
17	Ajuste del nivel de video de MOD	VR102	• Osciloscopio • GGV1007	CH1: C118 Alambre de conducción CH2: C122 Alambre de conducción	• Modo normal • GGV1007 Número 5300 STILL	Ajuste hasta que la microplaqueta sincrónica al nivel blanco de 100% en la señal blanca (100%) esté la misma que en CH1 y CH2.	
18	Ajuste de sub portador con retraso de 1H (hora)	VR101	• Osciloscopio • GGV1007	CH1: C118 Alambre de conducción CH2: C122 Alambre de conducción	• Modo normal • GGV1007 Número 5100 STILL	Ajuste hasta que la señal de croma en la señal majenta esté misma en CH1 y CH2.	

6. IC INFORMATION

- The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

6.1 PD0135A1 (IC101)

• Mechanism control IC

● Pin Function

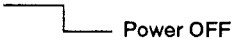
No.	Pin Name	I/O	Function
1	VCC	–	Power supply connection pin. Set to 5V ± 10%.
2	DIRECT	O	CD DIRECT video system power OFF signal output pin "H"=video system power OFF, "L"=ON
3	N.C.	–	Not used.
4	LD ON	O	Laser video ON/OFF switching signal output H: ON, L: OFF
5	TGH	O	Tracking operation control signal output pin The control signal supports ON/OFF of the tracking servo-mechanism operation. "H"=OFF, "L"=ON
6	SLDR POS	I	Pickup position detection switch input pin (analog signal) Divides the resistance among the switches, reads the value of the A/D input, and detects the position.
7	FREQ DET	I	RF detection signal input pin (analog signal) Inputs the A/D conversion of the RF detection output and is used in the spindle luff servo-mechanism. Voltage and frequency are proportional.
8	TBAL ERR	I	Tracking balance error signal input pin (analog signal) Signal is A/D converted and is input as the tracking offset control.
9	TILT ERR	I	Tilt sensor output signal input pin (analog signal) Inputs (0 to 5V) the tilt sensor output amplified to a 40 to 50dB signal. The signal is A/D converted and is input as the tilt sensor control. Controls the tilt motor until the signal is 2.5V.
10	CAV	O	CAV/CLV switching signal output pin "H"=CAV, "L"=CLV Connected to pin 6 of PA5013A and used as a VIDEO NR switching signal.
11	GFS	I	CD (EFM signal) frame lock signal input pin Connected to pin 12 of the EFM decoder IC: CXD2500AQ. "H"=Lock, "L"=Unlock GFS is an abbreviation for Good Frame Sync.
12	TBAL DRV	O	Tracking offset control signal output pin Outputs the tracking offset after PWM and is used in auto tracking offset. Cycle: 910 μsec; 3-value control H, L, Z.
13	SQ2	O	Analog audio switching signal output pin 2/R Squelch: H
14	SQ1	O	Analog audio switching signal output pin 1/L Squelch: H When in digital audio mode, the signal is output through the control of the EFM decoder IC: CXD2500AQ.
15	SI2	I	EFM decoder IC: CXD2500AQ subcode input pin Reads the subcodes of SCK2 and the signal.
16	XLAT2	O	EFM decoder IC: CXD2500AQ control latch signal output pin Sends the control command using SO3 and 2500CLK.
17	SCK2	O	EFM decoder IC: CXD2500AQ subcode read clock signal output pin Sets the clock to 96 and reads the subcode.
18	TILT DRV	O	Tilt control signal output pin Outputs the tilt drive after PWM and is used in tilt servo-mechanism.
19	S-FTOM	I	Input pin of data from the mode control IC Serial Used with the data signal to the carriage generating IC.
20	S-MTOM	O	Serial data output to the mode control IC Serial
21	SCK1	I/O	Clock for serial communication with the mode control IC In the input mode except during serial communication with the mode control IC Used with the clock signal to the carriage generating IC
22	SENS	I	SENS signal input pin All of the following signals from 2500 are switched and are output to the signal: SEIN, FZC, A.S, TZC, XBUSY, FOK, GFS, COMP, COUT and OV64.
23	SCOR	I	Subcode SYNC signal input pin Inputs the subcode signal from the EFM decoder IC: CXD2500AQ when the signal is "H". Supervises the disc playback depending on the presence of the signal.
24	N.C.	–	Not used.
25	SHAKE	I/O	Pin of hand shake signal for data communication with the mode control IC This pin is a bi-directional data path which sends the data transfer timing through the I/O mode switching of the respective microcomputers.
26	XPBV	I	LD/CDV playback V-SYNC signal input pin IC basically operates in sync hronization (rising and leading edges) with the signal. Setting the signal as standard in the special CAV playback mode, generates jump timing. "L"=V-SYNC ongoing
27	CN VSS	–	GND for A/D conversion
28	XRESET	I	Reset signal input pin "L"=Reset, "H"=Cancel reset
29	XTAL IN	I	9MHz clock generation input pin
30	XTAL OUT	O	9MHz clock generation output pin
31	FTS CLK	O	ϕ external clock output pin Outputs a clock which is one-fourth of the master clock (9MHz) used in the FTS IC: PM3003. 2.25MHz Does not output when using an FTS IC other than PM3003
32	VSS	–	GND
33	SW1	I	Loading/tilt position detection switch input pin
34	SW2	I	Loading/tilt position detection switch input pin
35	SW3	I	Loading/tilt position detection switch input pin
36	N.C.	I	Not used Processing needed when used for input
37	FG	I	Spindle motor-FG signal input pin 24 pulses per signal Divided into thirds and used inside the microcomputer.
38	DATA	I	Input pin for Phillips code decoder in the mechanism controller
39	XPBH	I	Playback H-SYNC input for Phillips code decoder
40	XPBV	I	Playback V-SYNC input for Phillips code decoder
41	GI. MIRR	O	False MIRR signal output pin to jump 1 track for LD.
42	N.C.	–	Not used
43	N.C.	–	Not used
44	MUTE	O	Audio system audio mute control output pin "H"=MUTE ON, "L"=MUTE OFF
45	16:9	O	16:9 switching signal output pin 16:9 "H", 4.3 (Nomal) "L"
46	T LATCH	O	DAC & Digital PD2026 serial control latch signal output pin
47	N.C.	–	Not used
48	N.C.	–	Not used
49	N.C.	–	Not used
50	2500CLK	O	2500 command clock signal output pin The commands for 2500 are the following: 2500CLK; SO3 and XLAT2.
51	RFCORR	O	RF correction switching signal output pin "H"=gain up. Increases gain (# 8000 to # 8100) within the CAV.

No.	Pin Name	I/O	Function
52	SCAN CONT	O	TBC control signal output pin H: multi-track jump ongoing, L: others
53	CD	O	CD/LD switching signal output pin H: CD, CDV-A, L: LD, CDV-V
54	ACC CONT	O	Spindle acceleration signal output pin H=acceleration, L=deceleration, Z=CD, stop and play
55	GPWM	O	Spindle gain switching duty pulse signal output pin CLV inner circumference: L, outer circumference: H, CAV: L, CDV: H
56	J. TRIG	O	Track jump signal output pin Used for single track jump H: start of track, L: others, Width of "H": approx. 20 μsec
57	SCK3	O	Serial 3 clock signal output pin Reads the leading edge "H"=within 2 μsec, "L"=within 20 μsec
58	SO3	O	Serial 3 data signal output pin With the serial signal as the common signal, divides the signals into three types of latch signals (XLAT3, XLAT2 and T LATCH). LSB first
59	XLATCH3	O	Spindle servo-mechanism IC latch signal output pin
60	J F/R	O	CLV V-SYNC scan mode signal output pin
61	VSQ	O	Video output switching signal output pin "H"=squelch, "L"=playback video
62	XPLAY	I	Usually, held "L" in PLAY mode.
63	N.C.	–	Not used.
64	XSPLOCK	I	Spindle lock signal input pin L: lock, H: unlock

6.2 PD3214A (IC201)

• Mode control IC

● Pin Function

No.	Pin Name	Signal name	I/O	Function
1	PO4/AN4	N.C.	I	Not used
2	PO5/AN5	N.C.	I	Not used
3	PO6/AN6	N.C.	I	Not used
4	PO7/AN7	N.C.	I	Not used
5	AVss	AVss	–	Connected to standard power supply (Vss) for A/D conversion
6	TEST	TEST	I	Test pin Connected to Vss
7	X2	X2	O	Subclock Release
8	X1	X1	I	Subclock Connected to Vcc
9	Vss	Vss	–	Ground
10	OSC1	OSC1	I	System clock Connects 8MHz ceramic lock
11	OSC2	OSC2	I	System clock Connects 8MHz ceramic lock
12	$\overline{\text{RESET}}$	$\overline{\text{RESET}}$	I	Reset
13	P1O/IRQ0	SHAKE	I/O	Communication timing clock with mechanism control
14	P11/$\overline{\text{IRP1}}$	SEL IR	I	Remote control signal (including SR)
15	P12/$\overline{\text{IRQ2}}$	W.D.F	O	For watchdog timer pluse output
16	P13/$\overline{\text{IRQ3}}$	POWER On	O	Power ON  Power OFF
17	P14/IRQ4	N.C.	O	Not used
18	P15/$\overline{\text{IRQ5}}$	N.C.	O	Not used
19	P16/EVENT	N.C.	I	Not used
20	P33/FS27	N.C.	O	Not used
21	P32/FS26	N.C.	O	Not used
22	P31/FS25	N.C.	O	Not used
23	P30/FS24	STANDBY LED	O	Standby LED drive output
24	P47/FS23	N.C.	O	Not used
25	P46/FS22	N.C.	O	Not used
26	P45/FS21	N.C.	O	Not used
27	P44/FS20	N.C.	O	Not used
28	P43/FS19	seg l/KS3	O	FL segment l output and key scan 3 output
29	P42/FS18	seg k/KS2	O	FL segment k output and key scan 2 output
30	P41/FS17	seg j/KS1	O	FL segment j output and key scan 1 output
31	P40/FS16	seg i/KS0	O	FL segment i output and key scan 0 output
32	P50/FS15	seg h	O	FL segment h output
33	P51/FS14	seg g	O	FL segment g output
34	P52/FS13	seg f	O	FL segment f output
35	P53/FS12	seg e	O	FL segment e output

No.	Pin Name	Signal name	I/O	Function
36	P54/FS11	seg d	O	FL segment d output
37	P55/FS10	seg c	O	FL segment c output
38	P56/FS9	seg b	O	FL segment b output
39	P57/FS8	seg a	O	FL segment a output
40	P17/Vdisp	-30V	–	FL drive power supply
41	P60/FD0/FS7	G9	O	FL grid 9 output
42	P61/FD1/FS6	G8	O	FL grid 8 output
43	P62/FD2/FS5	G7	O	FL grid 7 output
44	P63/FD3/FS4	G6	O	FL grid 6 output
45	P64/FD4/FS3	G5	O	FL grid 5 output
46	P65/FD5/FS2	G4	O	FL grid 4 output
47	P66/FD6/FS1	G3	O	FL grid 3 output
48	P67/FD7/FS0	G2	O	FL grid 2 output
49	P70/FD8	G1	O	FL grid 1 output
50	P71/FD9	N.C.	O	Not used
51	P72/FD10	N.C.	O	Not used
52	P73/FD11	N.C.	O	Not used
53	P74/FD12	N.C.	O	Not used
54	P75/FD13	D.CD LED	O	DIRECT CD LED drive output
55	P76/FD14	S-SCAN	I/O	SHUTTER SCAN output
56	P77/FS15	N.C.	O	Not used
57	Vcc	Vcc	–	Power supply
58	P80	KIN0	I	Key input 0
59	P81	KIN1	I	Key input 1
60	P82	KIN2	I	Key input 2
61	P83	KIN3	I	Key input 3
62	P84	KIN4	I	Key input 4
63	P85	KIN5	I	Key input 5
64	P86	KIN6	I	Key input 6
65	P87	N.C.	–	Not used
66	P90/PWM	SYNCRO OUT	O	SYNCHRO REC output
67	P91/SCK1	XSCK	I/O	Communication clock with mechanism control/OSD
68	P92/SI1	SI	I	Receive data from mechanism control
69	P93/SO1	SO	O	Send data to mechanism control/OSD
70	P94/SCK2	XRESET	O	RESET output from other than mechanism control/OSD
71	P95/S12/CS	XSC	O	OSD chip select
72	P96/SO2	SYNCRO IN	I	SYNCHRO REC input
73	P97/UD	1700/700	I	Switching input for 1700/700 H: 1700, L: 700
74	PA0	N.C.	O	Not used
75	PA1	N.C.	O	Not used
76	AVcc	AVcc	–	Connection to Vcc of standard power supply for A/D conversion
77	P00/AN0	N.C.	O	Not used
78	P01/AN1	N.C.	O	Not used
79	P02//AN2	N.C.	O	Not used
80	P03/AN3	N.C.	O	Not used

7. FOR CLD - 700 / HEZ AND HB

NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by " ◉ " are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

CONTRAST OF MISCELLANEOUS PARTS

CLD - 700 / HEZ, HB and CLD - 1700 / HEZ have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		CLD-1700 / HEZ	CLD-700 / HEZ	CLD-700 / HB	
◉	MOTHER assembly	VWM1276	VWM1264	VWM1264	
NSP	MAIN assembly	VWX1123	VWX1116	VWX1116	
NSP	AUDIO assembly	VWX1124	VWX1117	VWX1117	
◉	FLKB assembly	VWM1278	VWM1277	VWM1277	
NSP	FLKY assembly	VWG1336	VWG1335	VWG1335	
NSP	HEPB assembly	VWV1254	• • • • •	• • • • •	
◉	SYPS assembly	VWR1146	VWR1146	VWR1147	
◉	SCRB assembly	VWV1248	VWV1255	VWV1255	
⚠	AC power cord	VDG1028	VDG1028	VDG1029	
	Euro scart cable	VDE1027	• • • • •	• • • • •	
	Video cable	• • • • •	VDE-056	VDE-056	
	Packing case	VHG1228	VHG1226	VHG1226	
NSP	Rear panel	VNA1278	VNA1276	VNA1277	
	Snap plate	VNE1102	• • • • •	• • • • •	
	Jack holder	VNE1811	• • • • •	• • • • •	
	Volume knob	VNK2003	• • • • •	• • • • •	
	Operating instructions (English / French / German / Italian)	VRE1010	VRE1011	• • • • •	
	Operating instructions (Dutch / Swedish / Spanish / Portuguese)	VRF1017	VRF1018	• • • • •	
	Operating instructions (English)	• • • • •	• • • • •	VRB1071	
	Front panel assembly	VXA1867	VXA1866	VXA1866	
	Remote control unit (CU-CLD077)	VXX1758	• • • • •	• • • • •	
	Remote control unit (CU-CLD072)	• • • • •	VXX1751	VXX1751	
	Battery cover	VNK1293	PZN1010	PZN1010	
NSP	Caution card (UC)	• • • • •	• • • • •	VRM1026	
NSP	Caution card (EW)	VRM1027	VRM1027	• • • • •	

LIST OF ASSEMBLIES (FOR CLD-700/HEZ AND HB)

FLKB assembly
- PSWB assembly
- FLKY assembly

MAIN assembly

VWX1116 and VWX1123 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		VWX1123	VWX1116	
	D102, D103	1SS254	• • • • •	
	C122	CKSQYF103Z50	• • • • •	
	C124, C125	CCSQCH101J50	• • • • •	
	C567	• • • • •	CEAS470M16	
	R121	RS1/10S473J	• • • • •	
	R150, R151	RS1/10S221J	• • • • •	
	R562	• • • • •	RD1/6PM101J	
	R564	RD1/6PM102J	RD1/6PM101J	
	JA3, JA4 (JACK/12V)	PKN1004	• • • • •	

AUDIO assembly

VWX1117 and VWX1124 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		VWX1124	VWX1117	
	IC202	NJM78L08A	• • • • •	
	IC208, IC211	BA15218	• • • • •	
	IC210	NJM79L08A	• • • • •	
	Q203, Q210, Q212, Q213	DTA124EK	• • • • •	
	D202, D205 - D207	1SS254	• • • • •	
	D210	ERA83 - 006	• • • • •	
	F301 - F303	VTH1016	• • • • •	
	C205	CEAS470M16	• • • • •	
	C207, C279	CEAS471M10	• • • • •	
	C210	CKSQYF104Z25	• • • • •	
	C264, C265	CFTXA152J50	• • • • •	
	C266, C267	CKSQYB682K50	• • • • •	
	C268, C269	CFTXA102J50	• • • • •	
	C272, C273	CEAS470M10	• • • • •	
	C278, C282	• • • • •	CFTXA332J50	
	C322	CKSQYF473Z25	• • • • •	
	R204, R289, R294	RS1/10S102J	• • • • •	
	R206	RS1/10S222J	• • • • •	
	R212, R213, R220, R221	RD1/6PM470J	• • • • •	
	R214, R219, R224	RS1/10S103J	• • • • •	
	R215, R223	RS1/10S682J	• • • • •	
	R222	RD1/6PM103J	• • • • •	
	R233, R286	RS1/10S471J	• • • • •	
	R234 (4.7 Ω)	DCN1001	• • • • •	
	R247 - R250	• • • • •	RS1/10S223J	
	R252, R254, R256, R258	RS1/10S223J	• • • • •	
	R263 - R268	RD1/6PM102J	• • • • •	
	R271, R272	RD1/6PM222J	• • • • •	
	R322, R323	RS1/10S822J	RS1/10S472J	
	JA8 (OPTICAL OUTPUT JACK)	TOTX178	• • • • •	

SCRB assembly

VW1255 and VWV1248 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		VWV1248	VWV1255	
	IC101	TC74HC74AP	• • • • •	
	IC102	TC74HC00AP	• • • • •	
	IC103	BU4053B	• • • • •	
	Q101-Q110	2SC1740S	• • • • •	
	L101, L102	LFA120K	• • • • •	
	L103, L104	LAU8R2J	• • • • •	
	L105	LAU330J	• • • • •	
	F101	VTF1034	• • • • •	
	F102	VTF1011	• • • • •	
	C101, C103, C120-C123, C126, C127, C129, C158	CEAS470M10	• • • • •	
	C102, C104-C108, C111, C112, C125, C128, C130	CKPUYY103N16	• • • • •	
	C109	CCCCH100D50	• • • • •	
	C110	CCCCH270J50	• • • • •	
	C113, C114	CKCYB681K50	• • • • •	
	C117-C119	CEANP220M10	• • • • •	
	C155	CEAS100M50	• • • • •	
	VR101	VRTB6VS471	• • • • •	
	VR102	VRTB6VS472	• • • • •	
	R101, R102, R124, R125, R127	RD1/6PM102J	• • • • •	
	R103, R107, R118, R122, R130	RD1/6PM101J	• • • • •	
	R104, R108, R110, R111, R119, R123, R131	RD1/6PM222J	• • • • •	
	R105, R106	RD1/6PM391J	• • • • •	
	R109	RD1/6PM122J	• • • • •	
	R112, R113, R120, R121	RD1/6PM223J	• • • • •	
	R114	RD1/6PM333J	• • • • •	
	R115	RD1/6PM153J	• • • • •	
	R116, R117	RD1/6PM471J	• • • • •	
	R126	RD1/6PM561J	• • • • •	
	R128, R132-R134	RD1/6PM472J	• • • • •	
	R129	RD1/6PM221J	• • • • •	
	R135	RD1/6PM470J	• • • • •	
	R136, R137	RD1/6PM121J	• • • • •	
	R138	RD1/6PM2R2J	• • • • •	
	DL101	DTF1033	• • • • •	

FLKY assembly

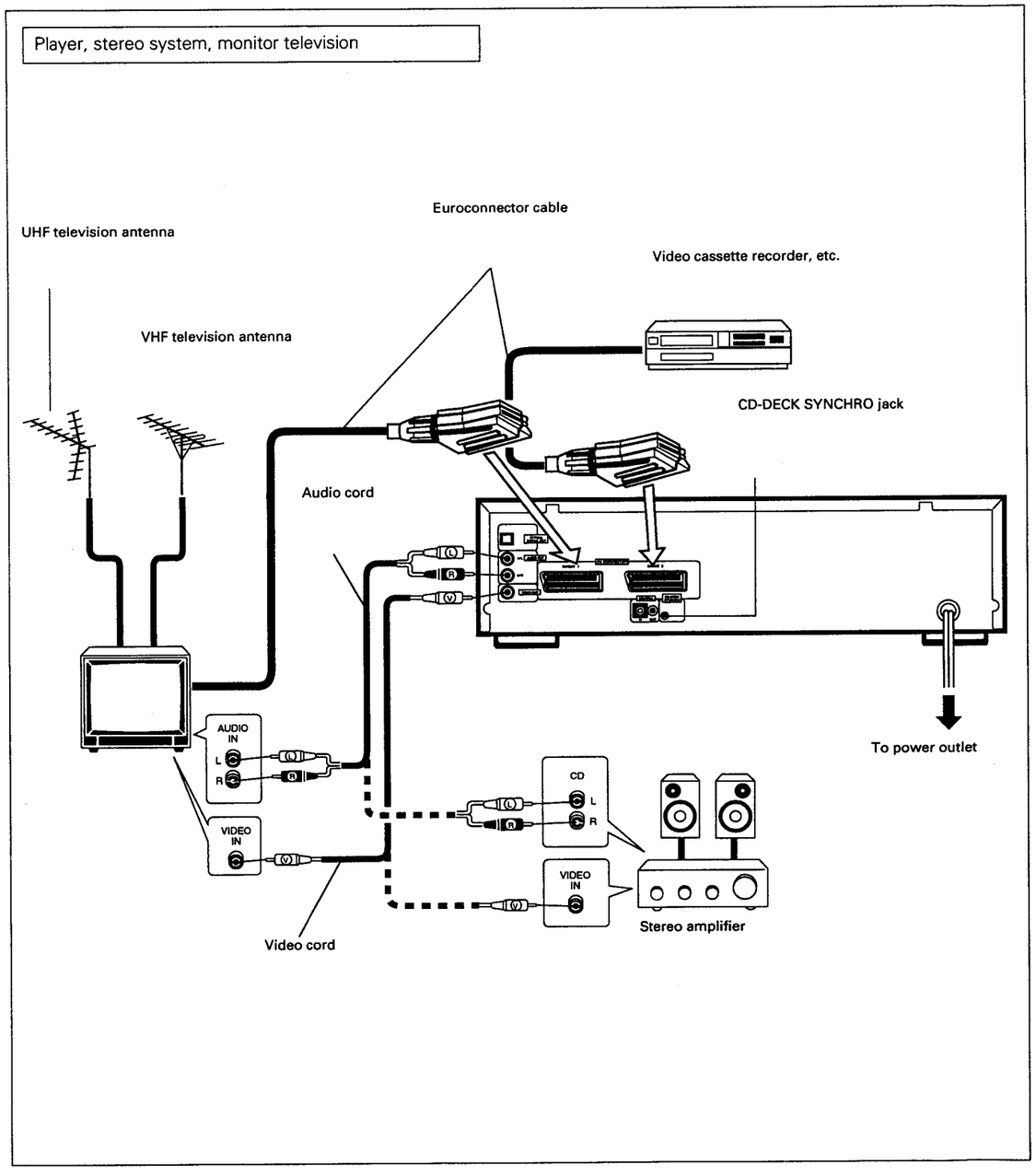
Although VWG1335 and VWG1336 are different in part number, they consist of the same components.

SYPS assembly

Although VWR1147 and VWR1146 are different in part number, they consist of the same components.

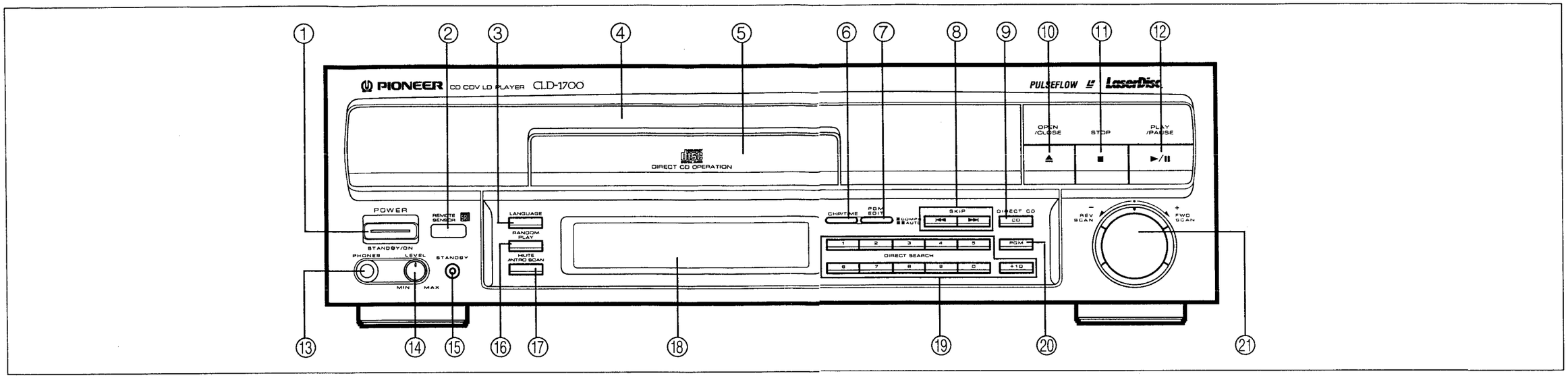
8. CONNECTIONS

USING TELEVISION WITH AUDIO AND VIDEO JACKS



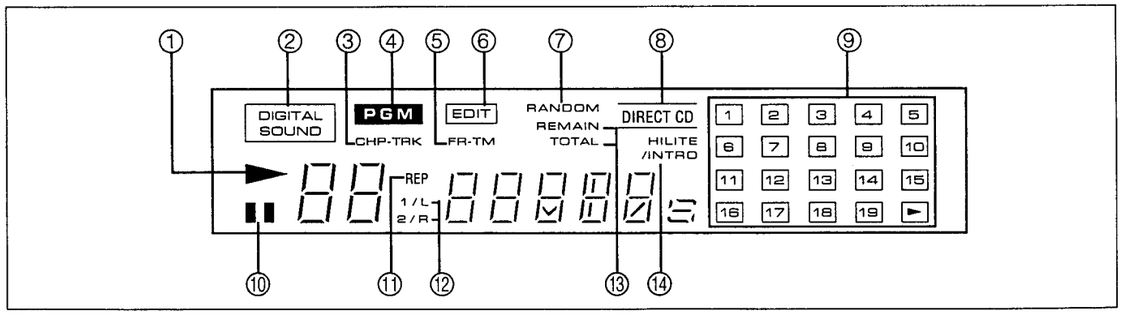
- Connect the VIDEO OUT jack of the player to the video input jack of the monitor television.
- Connect the AUDIO OUT jacks to the stereo amplifier AUX, CD, LD, VDP or other jacks, except the PHONO input jacks. The television speakers can also be used by connecting the television audio input jacks and the player AUDIO OUT jacks, however connection to a stereo amplifier is recommended to obtain superior audio playback quality for Compact Discs and LaserVision Discs. Do not change the television antenna connections.
- When using a video TV monitor (or TV) with AV CONNECTOR terminal, connect the AV CONNECTOR terminal to the AV CONNECTOR IN/OUT terminal of the player. Use supplied Euroconnector cable.
- Connect the power cord to an AC wall outlet.
- Combined system control is possible when a Pioneer television and audio/video stereo receiver are connected. Refer to page 28 for an explanation of the connection procedure.
- When making connections to stereo amplifier equipped with a built-in D/A converter and an optical digital jack, refer to the connection instructions
- When using a video cassette recorder with AV CONNECTOR terminal, connect the AV CONNECTOR terminal to the AV CONNECTOR IN/OUT terminal of the player.
  When a TV has been connected to the player using the AV CONNECTOR terminal and the power cord is plugged to an AC outlet, signals from the video cassette recorder are fed to the TV set via the player while the player is turned off.
- When using wide aspect type TV (16:9), be sure to connect the AV CONNECTOR terminal to the AV CONNECTOR IN/OUT terminal of the player.

9. PANEL FACILITIES



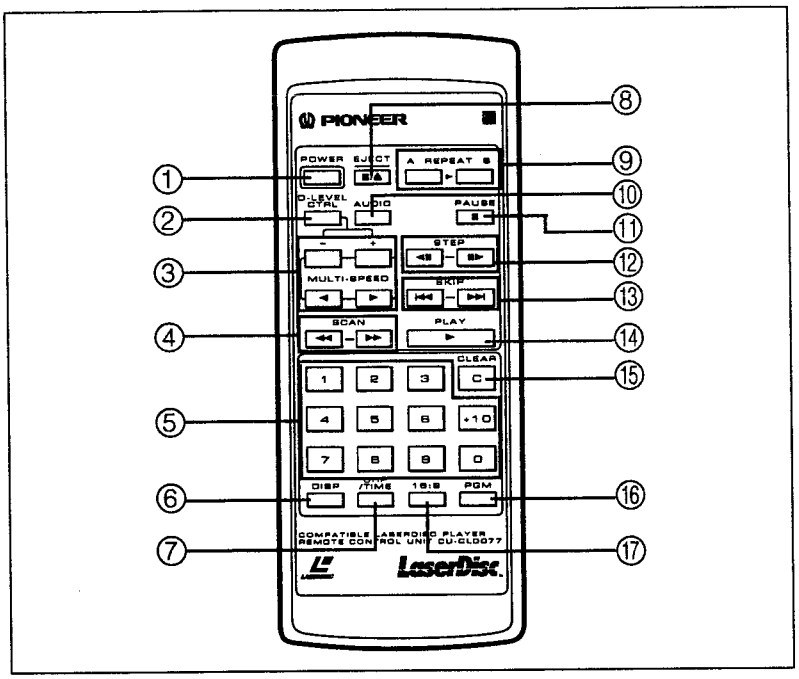
① **POWER STANDBY/ON switch**
Press to turn the power on and off.
② **REMOTE SENSOR**
③ **LANGUAGE button**
④ **Disc table**
⑤ **CD disc table**
⑥ **CHP/TIME button**
⑦ **PGM EDIT button**
⑧ **SKIP buttons**
⑨ **DIRECT CD button**
⑩ **OPEN/CLOSE button**
⑪ **STOP button**
⑫ **PLAY/PAUSE button**
⑬ **PHONES jack**
⑭ **PHONES LEVEL control**
Turn this control in the "MAX" direction to increase the output level from the PHONES jack. Turn this control in the "MIN" direction to decrease the output level from the PHONES jack.
⑮ **STANDBY indicator**
⑯ **RANDOM PLAY button**
⑰ **HILITE/INTRO SCAN button**
⑱ **Display window**
⑲ **DIRECT SEARCH/Digit buttons**
⑳ **PGM (program) button**
㉑ **SCAN control**

Display window



① **► play indicator**
Lights during play. Blinks during search.
② **DIGITAL SOUND indicator**
Lights when the power is turned on. When an analog audio disc is played back, the indicator goes out.
③ **CHP-TRK indicator**
Indicates the CHP (chapter) number or TRK (track) number.
④ **PGM indicator**
Lights during program play and programming.
⑤ **FR-TM indicator**
Indicates the FR (frame) number or TM (time).
⑥ **EDIT indicator**
Lights when editing is performed.
⑦ **RANDOM indicator**
Lights during random play.
⑧ **DIRECT CD indicator**
⑨ **Visual calendar**
When a disc is loaded, all of the chapter/track numbers recorded on the disc light up on the display. If the disc contains more than 19 chapters/tracks, the ► indicator lights.
During program play, only the programmed chapter/track numbers light. When a disc without a TOC section is played, only the selection number being played lights.
When a CDV disc is loaded, the track numbers of the video part light followed by the track numbers of the audio part.
After a chapter/track is finished playing, the corresponding number goes out.
⑩ **II pause indicator**
Lights when the player is in pause mode.
⑪ **REP indicator**
Lights during repeat play.
⑫ **1/L, 2/R indicator**
Indicates the audio output channel.
⑬ **REMAIN/TOTAL indicator**
Indicates the REMAIN TIME (remaining play time) or TOTAL TIME (total play time).
⑭ **HILITE/INTRO indicator**
Lights during Hi-Lite Scan or Intro Scan mode.

Remote control buttons with the same names or marks as buttons on the front panel of the player control the same operations as the corresponding front panel buttons.



① **POWER button**
Press to turn the power on and off.
② **D-LEVEL CTRL button**
③ **MULTI-SPEED buttons**
④ **SCAN buttons**
⑤ **Direct search/Digit buttons**
⑥ **DISP button**
⑦ **CHP/TIME button**
⑧ **EJECT button**
⑨ **REPEAT A/B buttons**
⑩ **AUDIO button**
⑪ **PAUSE button**
⑫ **STEP buttons**
⑬ **SKIP buttons**
⑭ **PLAY button**
⑮ **CLEAR button**
Used to clear the repeat mode, program mode, random play mode or hi-lite scan/intro scan mode. This button is also for use in correcting input digits.
⑯ **PGM (program) button**
⑰ **16:9 button**

10. SPECIFICATIONS

1. General

System ..... LaserVision Disc system and Compact Disc digital audio system
Laser ..... Semiconductor laser wavelength 780 nm
Power requirements ..... AC 220 - 230 V, 50/60 Hz
Power consumption ..... 42 W
Weight ..... 7.4 kg
Dimensions ..... 420 (W) x 390 (D) x 122 (H) mm
Operating temperature ..... +5°C ~ +35°C (41°F - 95°F)
Operating humidity ..... 5% ~ 90% (There should be no condensation of moisture.)

2. Disc

LaserVision Discs
PAL disc
*Maximum playing times
30 cm active play disc ..... 72 min/both sides
30 cm long play disc ..... 2 hours/both sides
20 cm active play disc ..... 28 min/both sides
14 min/one side
20 cm long play disc ..... 40 min/both sides
20 min/one side
Spindle motor speed
Active play disc ..... 1,500 rpm
Long play disc ..... 1,500 rpm (inner circumference) to 570 rpm (outer circumference) (For a 30 cm disc)

Compact Discs
DISC Diameter: 12 cm, 8 cm, Thickness: 1.2 mm
Rotation direction (pickup side)
Counterclockwise
Linear speed 1.2 ~ 1.4m/sec
* Maximum playing time ..... 74 min. 12 cm discs
20 min. 8 cm discs
(For stereo playback)

Compact Discs with Video
Disc Diameter: 12 cm, Thickness: 1.2 mm
Rotation direction (pickup side)
Counterclockwise
Linear speed ..... Audio portion: 1.2 ~ 1.4m/sec
Video portion: 11 ~ 12m/sec
* Maximum playing time ..... Video portion: 5 min. (CLV)
Audio portion: 20 min. (Digital)

** Actual playback time differs for each disc.*

3. Video characteristics

Format ..... PAL specifications
Video output
Level ..... 1 Vp-p nominal, sync. negative, terminated
Impedance ..... 75 Ω unbalanced
Jack ..... RCA jack

4. Audio characteristics

Output level ..... 200 mVrms (1 kHz, –20 dB)
Jacks ..... Both RCA jacks
Number of channels 2

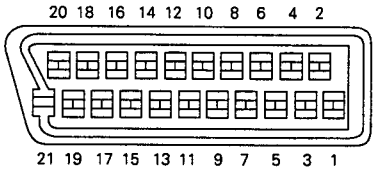
Digital Audio Characteristics

Frequency response	4 Hz - 20 kHz
SN ratio	105 dB (EIAJ)
Dynamic range	97 dB (EIAJ)
Total harmonic distortion	0.003% (EIAJ)
Wow and flutter	Limit of measurement (±0.001 % W.PEAK) (EIAJ)

5. Other Terminals

Control input/output ..... Both miniature jacks
CD-DECK synchro ..... Miniature jack
Optical digital output ..... Optical digital jack
AV connector input/output ..... 21-pin connector
This connector provides the video and audio signals for connection to a colour video TV monitor (or TV set) which has a "AV CONNECTOR" terminal.

PIN assignment



PIN no.		
1	Audio 2/R out	17 GND
3	Audio 1/L out	19 Video out
4	GND	21 GND
8	Status	

6. Accessories

Remote control unit (CU-CLD077) 1
Size "AAA" (IEC R03) dry cell batteries 2
Euroconnector cable 1
Audio cord 1
Operating instructions 1
Warranty card 1

7. Functions

Remote control unit operations (CU-CLD077)

	Function	Active play Disc (CAV)	Long play Disc (CLV)	Compact Disc with Video	Compact Disc
Basic Functions	Single-side play	YES	YES	YES	YES
	Pause	YES	YES	YES	YES
	Stop	YES	YES	YES	YES
Search	Fast forward (forward and reverse)	YES	YES	YES	YES
	Chapter/Track skip	YES	YES	YES	YES
	Direct chapter/Track number search	YES	YES	YES	YES
	Frame number search	YES	NO	NO	NO
	Time number search	NO	YES	YES	YES
	Absolute time search	NO	NO	NO	YES
Program	Chapter/Track program play	YES	YES	YES	YES
	Program correction	YES	YES	YES	YES
Repeat	Repeat between 2 points	YES	YES	YES	YES
	Memory repeat	YES	YES	YES	YES
	Chapter/Track repeat	YES	YES	YES	YES
	One-side repeat	YES	YES	YES	YES
	Program repeat	YES	YES	YES	YES
	Random repeat	YES*1	YES*1	YES	YES
	Program random repeat	YES	YES	YES	YES
Trick play	Still/Step	YES	NO	NO	NO
	Multi-speed (Forward/reverse 9-level variable)	YES	NO	NO	NO
Time display	Elapsed time display	NO	YES	YES	YES
	Absolute time display	YES*1	NO	NO	YES
	Remaining track time display	NO	NO	YES	YES
	Remaining total time display	YES*1	YES*1	YES	YES
	Total number of selections, total time display	YES*1	YES*1	YES	YES
Others	Compu program/Auto program edit	YES*1	YES*1	YES	YES
	Hi-Lite scan	NO	NO	YES*3	YES
	Intro scan	YES	YES	YES*4	NO
	Digital level control	YES*2	YES*2	YES	YES
	Audio channel selection (Stereo, 1/L, 2/R)	YES	YES	YES	YES

*1 Only discs with TOC
*2 Can only be used with discs with digital audio signal tracks.
*3 Audio part only
*4 Video part only

NOTE:
The specifications and design of this product are subject to change without notice, due to improvement.

PLAYER FUNCTIONS

- Display, Visual Calendar Display
- Intro Scan, Hi-Lite Scan, Direct CD, Digital Level Control, Random Playback, Program Random Playback and Compu Program/Auto Program Edit
- Digital Audio Signal for LaserVision Discs
- Last Memory